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**FLUOR****Memorandum**

M8141-SLF-05-029

To: S. J. Trent A0-21 Date: January 13, 2005

From: S. L. Fitzgerald, Manager  
 WSCF Analytical Chemistry

|     |                       |                     |
|-----|-----------------------|---------------------|
| cc: | w/Attachments         | w/o Attachments     |
|     | T. F. Dale S3-28      | D. J. Hart S3-30    |
|     | H. K. Meznarich S3-30 | M. A. Neely S3-30   |
|     | P. D. Mix S3-30       | H. S. Rich S3-28    |
|     | J. E. Trechter S3-30  | L. C. Swanson E6-35 |
|     |                       | File/LB             |

Subject: FINAL RESULTS FOR 200-MW-1 CHARACTERIZATION SAMPLING AND ANALYSIS -  
 SOIL - SAMPLE DELIVERY GROUP WSCF20042394 - SAF NUMBER F04-015

Reference: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001,  
 October 31, 2002

(2) HNF-SD-CD-QAPP-017, Rev. 6, Waste Sampling & Characterization Facility Quality  
 Assurance Plan

This letter contains a narrative (Attachment 1) for sample delivery group WSCF20042394, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3



M8141-SLF-05-029

**ATTACHMENT 1**

**NARRATIVE**

Consisting of 7 pages  
Including cover page

|                              |                       |
|------------------------------|-----------------------|
| <b>Sample Delivery Group</b> | <b>WSCF20042394</b>   |
| <b>Sample Matrix</b>         | <b>Soil</b>           |
| <b>Sample Visual</b>         | <b>N/A</b>            |
| <b>SAF Number</b>            | <b>F04-015</b>        |
| <b>Data Deliverable</b>      | <b>Summary Report</b> |

### Introduction

One (1) 200-MW-1 Characterization Sampling and Analysis – Soil/216-U-3, 22.5' – 25', sample (B19941) was received at the WSCF Laboratory on December 13, 2004. The sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 1) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 2) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information. Copies of the Chain of Custody and Request for Sample Analysis forms are included as Attachment 3.

### Analytical Methodology for Requested Analyses

#### **Inorganic**

- Anions by EPA Method 300. Analytical work was performed with no deviations to the approved method.
- Cyanide by EPA Method 600/R-94-111 300. Analytical work was performed with no deviations to the approved method.
- ICP-MS Metals by EPA Method 200.8. Analytical work was performed with no deviations to the approved method.
- Percent Solids by EPA Method 160.3. Analytical work was performed with no deviations to the approved method.
- pH by EPA Method 9045C. Analytical work was performed with no deviations to the approved method.

#### **Organic**

- PCB by EPA Method 8082. Analytical work was performed with no deviations to the approved method.

- Semi-VOA by EPA Method 8270C. Analytical work was performed with no deviations to the approved method.
- TPH Diesel/Gas Range by WDOE Method NWTPH-Dx/Gx. Analytical work was performed with no deviations to the approved method.
- VOA by EPA Method 8260B. Analytical work was performed with no deviations to the approved method.

## Radiochemistry

- All RadChem analyses (AEA (Plutonium, Americium and Uranium), GEA, Sr-89/90) were run by internal WDOE accredited WSCF procedures. Analytical work was performed with no deviations to the approved method.

## Inorganic Comments

**Anions** - The hold times for Nitrite and Nitrate analyses was not met. A Blank, Laboratory Control Sample, Duplicate, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GPP Letter of Instruction. See pages 12 through 13 for QC details.  
Analytical Notes:

- Preparation Date: 06-jan-2005.
- Duplicate, Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19945 (SDG# 20042473, SAF# F04-015).
- Nitrate – Sample B19941 result was B-flagged; the analyte was less than the reportable detection limit, but greater than or equal to the method detection limit.

All QC controls are within the established limits.

**Cyanide** - The hold time for this analysis was met. A Blank, Preparation Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GPP Letter of Instruction. See page 14 for QC details. Analytical Note:

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19939 (SDG# 20042380, SAF# F04-015).

All QC controls are within the established limits.

**ICP-MS Metals** – The hold time for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See pages 15 through 17 for QC details. Analytical Notes:

- Preparation Date: 20-dec-2004.

- Duplicate precision was evaluated on sample# B1BR60 (SDG# 20042450, SAF# F04-033).
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19942 (SDG# 20042399, SAF# F04-015).
- Mercury and Silver - The analytes detected in the associated preparation Blank sample were evaluated and there was no significant affect on the sample results.
- Silver – The Laboratory Control Sample recovery was below established laboratory limits, but within manufacturer's limits. Sample B19941 was below the detection limit and U-flagged.
- Mercury – Laboratory Control Sample recovery exceeded established laboratory limits. Sample B19941 was below the detection limit and U-flagged.

All other QC controls are within the established limits.

**Percent Solids** – Analyzed for organic results correction.

**pH** – The hold times for this analysis was met. All internal laboratory controls were within established limits.

#### **Organic Comments**

- Sample results were moisture corrected and reported on a dry-weight basis.

**PCB** – The hold times for this analysis was met. A Blank, Duplicate, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See pages 21 through 22 for QC details. Analytical Notes:

- Preparation Date: 14-dec-2004.
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19197 (SDG# 20042304, SAF# F03-025).
- Tetrachloro-m-xylene (surrogate) – Sample B19941, Matrix Spike Duplicate and Laboratory Control Sample recoveries were below established laboratory limits and the matrix Relative Percent Difference exceeded established laboratory limits due to excessive blow down while concentration of the sample. The Decachlorobiphenyl and Aroclor-1254 recoveries were within established limits, so the sample B19941 result was not flagged.

All other QC controls are within the established limits.

**Semi-VOA** – The hold times for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See pages 23 through 26 for QC details. Analytical Notes:

- Preparation Date: 14-dec-2004
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19940 (SDG# 20042380, SAF# F04-015).

All QC controls are within the established limits.

**TPHD-WA** - The hold times for this analysis were met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GPP Letter of Instruction. See pages 27 for QC details. Analytical Notes:

- Preparation Date: 14-dec-2004.
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19940 (SDG# 20042380, SAF# F04-015).

All QC controls are within the established limits.

**TPHG-WA** - The hold times for this analysis were met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per GPP Letter of Instruction. See page 28 for QC details. Analytical Notes:

- Preparation Date: 15-dec-2004.
- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19197 (SDG# 20042304, SAF# F03-025).
- Duplicate QC samples were analyzed on sample# B1B578 (SDG# 20042392, SAF# F03-006).
- Total Petroleum Hydrocarbons Gas – The Laboratory Control Sample recovery was slightly below established laboratory limits. Sample B19941 result was below the detection limit and U-flagged.

All other QC controls are within the established limits.

**VOA** – The hold times for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See pages 29 through 31 for QC details. Analytical Note:

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B19974 (SDG# 20042382, SAF# F04-019).

All QC controls are within the established limits.

### Radiochemistry Comments

**RadChem** – There are no hold times associated with these WDOE accredited methods. A Blank, Laboratory Control Sample and Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See pages ? through ? for QC details. Analytical Notes:

- Americium-242, Plutonium-239/240, Stronitum-89/90 and Uranium-238 - Duplicate QC samples were analyzed on sample# B1B578 (SDG# 20042392, SAF# F03-006).
- GEA Duplicate QC sample was analyzed on sample# B1B579 (SDG# 20042392, SAF# F03-006).
- Americium-241 – Duplicate Relative Percent Difference exceeded established laboratory limits. The RPD criterion does not apply to low level samples.

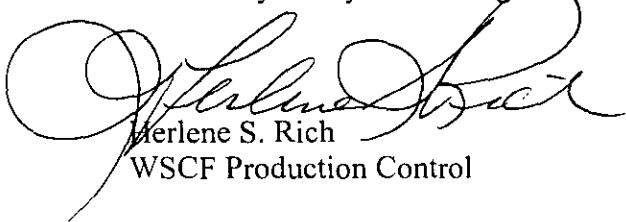
All other QC controls are within the established limits.

| Radiochemical Tracer Percent Recovery |               |         |                           |
|---------------------------------------|---------------|---------|---------------------------|
| Sample Number                         | Lab Sample ID | Isotope | Tracer Recovery (Percent) |
| BLANK                                 |               | Sr-85   | 86.7                      |
| LCS                                   |               | Sr-85   | 101.8                     |
| B1B578                                | W040002592    | Sr-85   | 101.2                     |
| DUPLICATE                             | W040002592    | Sr-85   | 99.1                      |
| B19941                                | W040002595    | Sr-85   | 91.9                      |
| BLANK                                 |               | U-232   | 72.0                      |
| LCS                                   |               | U-232   | 80.5                      |
| B1B578                                | W040002592    | U-232   | 89.2                      |
| DUPLICATE                             | W040002592    | U-232   | 88.2                      |
| B19941                                | W040002595    | U-232   | 87.1                      |
| BLANK                                 |               | Am-243  | 86.9                      |
| LCS                                   |               | Am-243  | 81.3                      |
| B1B578                                | W040002592    | Am-243  | 88.5                      |

### Radiochemical Tracer Percent Recovery

| Sample Number | Lab Sample ID | Isotope | Tracer Recovery (Percent) |
|---------------|---------------|---------|---------------------------|
| DUPLICATE     | W040002592    | Am-243  | 78.9                      |
| B19941        | W040002595    | Am-243  | 88.8                      |
| BLANK         |               | Pu-242  | 67.1                      |
| LCS           |               | Pu-242  | 80.2                      |
| B1B578        | W040002592    | Pu-242  | 69.2                      |
| DUPLICATE     | W040002592    | Pu-242  | 78.4                      |
| B19941        | W040002595    | Pu-242  | 72.3                      |

This Summary Report is in compliance with the SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the WSCF Laboratory Analytical Manager and Client Services, as verified by the following signature.



Merlene S. Rich  
WSCF Production Control

#### Abbreviations

Hg – mercury  
 IC – ion chromatography  
 ICP – inductively coupled plasma  
 ICP/AES – ICP/atomic emission spectroscopy  
 ICP/MS – ICP/mass spectrometry  
 Total U – total uranium  
 AT/TB – total alpha/total beta  
 AEA – Alpha Energy Analysis  
 WTPH-G – Total Hydrocarbons-Gasoline

Am – americium  
 Cm - curium  
 Pu – plutonium  
 Np – neptunium  
 GEA – gamma energy analysis  
 H3 – Tritium  
 Sr – Strontium 89, 90  
 WTPH-D – Total Hydrocarbons-Diesel  
 TSS – Total Suspended Solids

M8141-SLF-05-029

ATTACHMENT 2

**ANALYTICAL RESULTS**

Consisting of 36 pages  
Including cover page

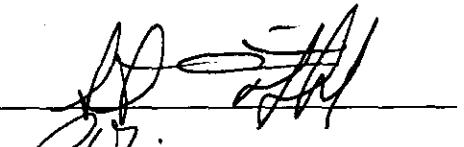
**WSCF**  
**ANALYTICAL RESULTS REPORT**

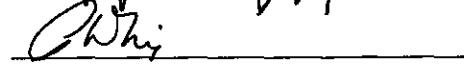
**for**

**Groundwater Remediation Program**

**Richland, WA 99354**

**Attention: Steve Trent**

Analytical: 

Client Services: 

*All results are reported on an "as received" basis unless otherwise noted in the comment section.*

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Contract#: FH-EIS-2003-MEM-001

Report#: WSCF20042394

Report Date: 11-jan-2005

Report WGPP/ver. 1.1

Groundwater Remediation Program

Page 1

# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent      **Group #:** WSCF20042394  
**Project:** F04-015: F04-015

| Sample #         | Client ID | CAS # | Test Performed | Matrix     | WSCF Method         | RQ   | Result     | Unit | DF      | MDL   | Analyze Sample Receive |       |                            |
|------------------|-----------|-------|----------------|------------|---------------------|------|------------|------|---------|-------|------------------------|-------|----------------------------|
| <b>Inorganic</b> |           |       |                |            |                     |      |            |      |         |       |                        |       |                            |
| W040002595       | B19941    | GRP   | TRENT          | 57-12-5    | Cyanide             | SOIL | LA-695-402 | U    | < 0.200 | mg/kg | 1.00                   | 0.20  | 12/15/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | TS         | Total solids        | SOIL | LA-519-412 |      | 94.9    | %     | 1.00                   | 0.0   | 12/15/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | PH         | pH Measurement      | SOIL | LA-212-411 |      | 8.90    | pH    | 1.00                   | 0.010 | 12/14/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 16984-48-8 | Fluoride            | SOIL | LA-533-410 | U    | < 1.15  | mg/kg | 50.00                  | 1.2   | 01/05/05 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | NO2-N      | Nitrogen in Nitrite | SOIL | LA-533-410 | U    | < 0.950 | mg/kg | 50.00                  | 0.95  | 01/05/05 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | NO3-N      | Nitrogen in Nitrate | SOIL | LA-533-410 | B    | 1.28    | mg/kg | 50.00                  | 0.65  | 01/05/05 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | PO4-P      | Phosphate (P) by IC | SOIL | LA-533-410 | U    | < 2.70  | mg/kg | 50.00                  | 2.7   | 01/05/05 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 14808-79-8 | Sulfate             | SOIL | LA-533-410 | U    | < 5.00  | mg/kg | 50.00                  | 5.0   | 01/05/05 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 7440-22-4  | Silver              | SOIL | LA-505-412 | U    | < 1.89  | mg/kg | 9.47                   | 1.9   | 12/21/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 7440-43-9  | Cadmium             | SOIL | LA-505-412 | U    | < 0.947 | mg/kg | 9.47                   | 0.95  | 12/21/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 7440-47-3  | Chromium            | SOIL | LA-505-412 | U    | < 2.84  | mg/kg | 9.47                   | 2.8   | 12/21/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 7440-50-8  | Copper              | SOIL | LA-505-412 |      | 11.5    | mg/kg | 9.47                   | 4.7   | 12/21/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 7439-92-1  | Lead                | SOIL | LA-505-412 | U    | < 11.4  | mg/kg | 9.47                   | 11    | 12/21/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 7439-97-6  | Mercury             | SOIL | LA-505-412 | U    | < 0.947 | mg/kg | 9.47                   | 0.95  | 12/21/04 12/13/04 12/13/04 |
| W040002595       | B19941    | GRP   | TRENT          | 7440-61-1  | Uranium             | SOIL | LA-505-412 | U    | < 0.947 | mg/kg | 9.47                   | 0.95  | 12/21/04 12/13/04 12/13/04 |

**MDL= Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorganic)

U - Analyzed for but not detected above limiting criteria.

**RQ=Result Qualifier**

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

*Report WGPver. 1.1*

*Groundwater Remediation Program*

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: Anions by Ion Chromatography

SAF Number: F04-015

Sample Date: 12/20/04

Receive Date: 12/20/04

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|

Lab ID: W040002744

## BATCH QC ASSOCIATED WITH SAMPLE

|     |                     |            |           |         |         |          |        |         |   |
|-----|---------------------|------------|-----------|---------|---------|----------|--------|---------|---|
| DUP | Fluoride            | 16984-48-8 | <1.15e0   | n/a     | RPD     | 01/05/05 | 0.000  | 20.000  | U |
| DUP | Nitrogen in Nitrite | NO2-N      | <9.50e-1  | n/a     | RPD     | 01/05/05 | 0.000  | 20.000  | U |
| DUP | Nitrogen in Nitrate | NO3-N      | 2.16e +00 | 11.247  | RPD     | 01/05/05 | 0.000  | 20.000  |   |
| DUP | Phosphate (P) by IC | PO4-P      | <2.70e0   | n/a     | RPD     | 01/05/05 | 0.000  | 20.000  | U |
| DUP | Sulfate             | 14808-79-8 | <5.00e0   | n/a     | RPD     | 01/05/05 | 0.000  | 20.000  | U |
| MS  | Fluoride            | 16984-48-8 | 4.34e-01  | 87.854  | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MS  | Nitrogen in Nitrite | NO2-N      | 4.83e-01  | 96.600  | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MS  | Nitrogen in Nitrate | NO3-N      | 4.36e-01  | 96.674  | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MS  | Phosphate (P) by IC | PO4-P      | 7.97e-01  | 82.250  | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MS  | Sulfate             | 14808-79-8 | 1.85e +00 | 92.500  | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MSD | Fluoride            | 16984-48-8 | 4.56e-01  | 92.308  | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MSD | Nitrogen in Nitrite | NO2-N      | 4.70e-01  | 94.000  | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MSD | Nitrogen in Nitrate | NO3-N      | 4.56e-01  | 101.109 | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MSD | Phosphate (P) by IC | PO4-P      | 8.25e-01  | 85.139  | % Recov | 01/05/05 | 75.000 | 125.000 |   |
| MSD | Sulfate             | 14808-79-8 | 1.81e +00 | 90.500  | % Recov | 01/05/05 | 75.000 | 125.000 |   |

## BATCH QC

|       |                     |            |          |     |      |          |       |         |   |
|-------|---------------------|------------|----------|-----|------|----------|-------|---------|---|
| BLANK | Fluoride            | 16984-48-8 | <2.30e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |
| BLANK | Fluoride            | 16984-48-8 | <2.30e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |
| BLANK | Fluoride            | 16984-48-8 | <2.30e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |
| BLANK | Nitrogen in Nitrite | NO2-N      | <1.90e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |
| BLANK | Nitrogen in Nitrite | NO2-N      | <1.90e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |
| BLANK | Nitrogen in Nitrite | NO2-N      | <1.90e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |
| BLANK | Nitrogen in Nitrate | NO3-N      | <1.30e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |
| BLANK | Nitrogen in Nitrate | NO3-N      | <1.30e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |
| BLANK | Nitrogen in Nitrate | NO3-N      | <1.30e-2 | n/a | mg/L | 01/05/05 | 0.000 | 300.000 | U |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: Anions by Ion Chromatography

SAF Number: F04-015

Sample Date:

Receive Date:

| QC Type | Analyte             | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|---------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| BLANK   | Phosphate (P) by IC | PO4-P      | <5.40e-2 | n/a      | mg/L    | 01/05/05      | 0.000       | 300.000     | U  |
| BLANK   | Phosphate (P) by IC | PO4-P      | <5.40e-2 | n/a      | mg/L    | 01/05/05      | 0.000       | 300.000     | U  |
| BLANK   | Phosphate (P) by IC | PO4-P      | <5.40e-2 | n/a      | mg/L    | 01/05/05      | 0.000       | 300.000     | U  |
| BLANK   | Sulfate             | 14808-79-8 | <1.00e-1 | n/a      | mg/L    | 01/05/05      | 0.000       | 300.000     | U  |
| BLANK   | Sulfate             | 14808-79-8 | <1.00e-1 | n/a      | mg/L    | 01/05/05      | 0.000       | 300.000     | U  |
| BLANK   | Sulfate             | 14808-79-8 | <1.00e-1 | n/a      | mg/L    | 01/05/05      | 0.000       | 300.000     | U  |
| LCS     | Fluoride            | 16984-48-8 | 9.79e+01 | 99.189   | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Fluoride            | 16984-48-8 | 9.02e+01 | 91.388   | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Nitrogen in Nitrite | NO2-N      | 1.02e+02 | 102.000  | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Nitrogen in Nitrite | NO2-N      | 9.86e+01 | 98.600   | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Nitrogen in Nitrate | NO3-N      | 9.12e+01 | 101.221  | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Nitrogen in Nitrate | NO3-N      | 9.51e+01 | 105.549  | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Phosphate (P) by IC | PO4-P      | 1.94e+02 | 100.103  | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Phosphate (P) by IC | PO4-P      | 1.90e+02 | 98.039   | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Sulfate             | 14808-79-8 | 3.89e+02 | 97.494   | % Recov | 01/05/05      | 80.000      | 120.000     |    |
| LCS     | Sulfate             | 14808-79-8 | 3.85e+02 | 96.491   | % Recov | 01/05/05      | 80.000      | 120.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: Cyanide by Midi/Spectrophotom

SAF Number: F04-015

Sample Date: 12/10/04

Receive Date: 12/10/04

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|

Lab ID: W040002581

## BATCH QC ASSOCIATED WITH SAMPLE

|         |                               |         |        |         |         |          |        |         |  |
|---------|-------------------------------|---------|--------|---------|---------|----------|--------|---------|--|
| MS      | Cyanide by Midi/Spectrophotom | 57-12-5 | 100.2  | 100.200 | % Recov | 12/15/04 | 75.000 | 125.000 |  |
| MSD     | Cyanide by Midi/Spectrophotom | 57-12-5 | 90.2   | 90.200  | % Recov | 12/15/04 | 75.000 | 125.000 |  |
| SPK-RPD | Cyanide by Midi/Spectrophotom | 57-12-5 | 90.200 | 10.504  | RPD     | 12/15/04 | 0.000  | 20.000  |  |

## BATCH QC

|           |                               |         |      |        |         |          |        |         |  |
|-----------|-------------------------------|---------|------|--------|---------|----------|--------|---------|--|
| BLANK     | Cyanide by Midi/Spectrophotom | 57-12-5 | 1    | 1.000  | ug/L    | 12/15/04 | -4.000 | 4.000   |  |
| BLNK-PREP | Cyanide by Midi/Spectrophotom | 57-12-5 | 1    | 1.000  | ug/L    | 12/15/04 | -4.000 | 4.000   |  |
| LCS       | Cyanide by Midi/Spectrophotom | 57-12-5 | 98.1 | 98.100 | % Recov | 12/15/04 | 85.000 | 115.000 |  |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: ICP-2008 MS All possible metal

SAF Number: F04-015

Sample Date: 12/14/04

Receive Date: 12/14/04

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|

**Lab ID: W040002599**

**BATCH QC ASSOCIATED WITH SAMPLE**

|     |          |           |        |         |         |          |        |         |  |
|-----|----------|-----------|--------|---------|---------|----------|--------|---------|--|
| MS  | Silver   | 7440-22-4 | 369.9  | 92.475  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Cadmium  | 7440-43-9 | 396.4  | 99.100  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Chromium | 7440-47-3 | 281.19 | 70.297  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Copper   | 7440-50-8 | 368.36 | 92.090  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Mercury  | 7439-97-6 | 20.31  | 101.550 | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Lead     | 7439-92-1 | 386.2  | 96.550  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Uranium  | 7440-61-1 | 396.9  | 99.225  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Silver   | 7440-22-4 | 388    | 97.000  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Cadmium  | 7440-43-9 | 411.1  | 102.775 | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Chromium | 7440-47-3 | 289.69 | 72.422  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Copper   | 7440-50-8 | 383.96 | 95.990  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Mercury  | 7439-97-6 | 21.18  | 105.900 | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Lead     | 7439-92-1 | 399.2  | 99.800  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Uranium  | 7440-61-1 | 417    | 104.250 | % Recov | 12/21/04 | 70.000 | 130.000 |  |

**Lab ID: W040002619**

**BATCH QC ASSOCIATED WITH SAMPLE**

|     |          |           |        |         |         |          |        |         |  |
|-----|----------|-----------|--------|---------|---------|----------|--------|---------|--|
| MS  | Silver   | 7440-22-4 | 374.79 | 93.698  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Cadmium  | 7440-43-9 | 393.6  | 98.400  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Chromium | 7440-47-3 | 349.1  | 87.275  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Copper   | 7440-50-8 | 375.24 | 93.810  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Mercury  | 7439-97-6 | 20.35  | 101.750 | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Lead     | 7439-92-1 | 384.5  | 96.125  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MS  | Uranium  | 7440-61-1 | 386    | 96.500  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Silver   | 7440-22-4 | 387.29 | 96.823  | % Recov | 12/21/04 | 70.000 | 130.000 |  |
| MSD | Cadmium  | 7440-43-9 | 412.2  | 103.050 | % Recov | 12/21/04 | 70.000 | 130.000 |  |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: ICP-2008 MS All possible metal

SAF Number: F04-015

Sample Date: 12/14/04

Receive Date: 12/14/04

| QC Type                                | Analyte  | CAS #     | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|----------|-----------|----------|----------|---------|---------------|-------------|-------------|----|
| MSD                                    | Chromium | 7440-47-3 | 358.8    | 89.700   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Copper   | 7440-50-8 | 397.34   | 99.335   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Mercury  | 7439-97-6 | 21.55    | 107.750  | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Lead     | 7439-92-1 | 401.5    | 100.375  | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Uranium  | 7440-61-1 | 404.2    | 101.050  | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| <b>Lab ID: W040002681</b>              |          |           |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |          |           |          |          |         |               |             |             |    |
| MS                                     | Silver   | 7440-22-4 | 372.3    | 93.075   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MS                                     | Cadmium  | 7440-43-9 | 394.8    | 98.700   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MS                                     | Chromium | 7440-47-3 | 346      | 86.500   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MS                                     | Copper   | 7440-50-8 | 382.17   | 95.543   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MS                                     | Mercury  | 7439-97-6 | 20.24    | 101.200  | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MS                                     | Lead     | 7439-92-1 | 392.3    | 98.075   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MS                                     | Uranium  | 7440-61-1 | 398.02   | 99.505   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Silver   | 7440-22-4 | 389.9    | 97.475   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Cadmium  | 7440-43-9 | 409.2    | 102.300  | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Chromium | 7440-47-3 | 342      | 85.500   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Copper   | 7440-50-8 | 383.67   | 95.918   | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Mercury  | 7439-97-6 | 21.71    | 108.550  | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Lead     | 7439-92-1 | 403.3    | 100.825  | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| MSD                                    | Uranium  | 7440-61-1 | 406.82   | 101.705  | % Recov | 12/21/04      | 70.000      | 130.000     |    |
| SPK-RPD                                | Silver   | 7440-22-4 | 97.475   | 4.618    | RPD     | 12/21/04      | 0.000       | 20.000      |    |
| SPK-RPD                                | Cadmium  | 7440-43-9 | 102.300  | 3.582    | RPD     | 12/21/04      | 0.000       | 20.000      |    |
| SPK-RPD                                | Chromium | 7440-47-3 | 85.500   | 1.163    | RPD     | 12/21/04      | 0.000       | 20.000      |    |
| SPK-RPD                                | Copper   | 7440-50-8 | 95.918   | 0.392    | RPD     | 12/21/04      | 0.000       | 20.000      |    |
| SPK-RPD                                | Mercury  | 7439-97-6 | 108.550  | 7.008    | RPD     | 12/21/04      | 0.000       | 20.000      |    |
| SPK-RPD                                | Lead     | 7439-92-1 | 100.825  | 2.765    | RPD     | 12/21/04      | 0.000       | 20.000      |    |
| SPK-RPD                                | Uranium  | 7440-61-1 | 101.705  | 2.187    | RPD     | 12/21/04      | 0.000       | 20.000      |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: ICP-2008 MS All possible metal

SAF Number: F04-015

Sample Date:

Receive Date:

| QC Type         | Analyte  | CAS #     | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|-----------------|----------|-----------|----------|----------|---------|---------------|-------------|-------------|----|
| <b>BATCH QC</b> |          |           |          |          |         |               |             |             |    |
| BLANK           | Silver   | 7440-22-4 | 0.34     | 0.340    | ug/L    | 12/21/04      |             |             |    |
| BLANK           | Cadmium  | 7440-43-9 | <0.1     | n/a      | ug/L    | 12/21/04      |             | U           |    |
| BLANK           | Chromium | 7440-47-3 | <0.3     | n/a      | ug/L    | 12/21/04      |             | U           |    |
| BLANK           | Copper   | 7440-50-8 | <0.5     | n/a      | ug/L    | 12/21/04      |             | U           |    |
| BLANK           | Mercury  | 7439-97-6 | 0.14     | 0.140    | ug/L    | 12/21/04      |             |             |    |
| BLANK           | Lead     | 7439-92-1 | <1.2     | n/a      | ug/L    | 12/21/04      |             | U           |    |
| BLANK           | Uranium  | 7440-61-1 | <0.1     | n/a      | ug/L    | 12/21/04      |             | U           |    |
| LCS             | Silver   | 7440-22-4 | 95.05    | 94.109   | % Recov | 12/21/04      | 110.000     | 170.000     | *  |
| LCS             | Cadmium  | 7440-43-9 | 99.18    | 93.566   | % Recov | 12/21/04      | 88.000      | 127.000     |    |
| LCS             | Chromium | 7440-47-3 | 173.1    | 87.868   | % Recov | 12/21/04      | 50.000      | 126.000     |    |
| LCS             | Copper   | 7440-50-8 | 68.49    | 93.184   | % Recov | 12/21/04      | 61.000      | 134.000     |    |
| LCS             | Mercury  | 7439-97-6 | 2.71     | 143.386  | % Recov | 12/21/04      | 75.000      | 114.000     | *  |
| LCS             | Lead     | 7439-92-1 | 69.89    | 95.478   | % Recov | 12/21/04      | 87.000      | 120.000     |    |
| LCS             | Uranium  | 7440-61-1 | 411.8    | 102.950  | % Recov | 12/21/04      | 89.000      | 107.000     |    |

# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent      **Group #:** WSCF20042394  
**Project:** F04-015: F04-015

| Sample #       | Client ID | CAS # | Test Performed | Matrix      | WSCF Method                 | RQ   | Result     | Unit | DF     | MDL   | Analyze Sample | Receive |                            |
|----------------|-----------|-------|----------------|-------------|-----------------------------|------|------------|------|--------|-------|----------------|---------|----------------------------|
| <b>Organic</b> |           |       |                |             |                             |      |            |      |        |       |                |         |                            |
| W040002595     | B19941    | GRP   | TRENT          | TPHGASOLINE | Total Pet. Hydrocarbons Gas | SOIL | LA-523-443 | U    | < 250  | ug/kg | 1.00           | 2.5e+02 | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 12674-11-2  | Aroclor-1016                | SOIL | LA-523-427 | U    | < 51.0 | ug/kg | 1.00           | 51      | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 11104-28-2  | Aroclor-1221                | SOIL | LA-523-427 | U    | < 100  | ug/kg | 1.00           | 1.0e+02 | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 11141-16-5  | Aroclor-1232                | SOIL | LA-523-427 | U    | < 51.0 | ug/kg | 1.00           | 51      | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 53469-21-9  | Aroclor-1242                | SOIL | LA-523-427 | U    | < 51.0 | ug/kg | 1.00           | 51      | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 12672-29-6  | Aroclor-1248                | SOIL | LA-523-427 | U    | < 51.0 | ug/kg | 1.00           | 51      | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 11097-69-1  | Aroclor-1254                | SOIL | LA-523-427 | U    | < 51.0 | ug/kg | 1.00           | 51      | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 11096-82-5  | Aroclor-1260                | SOIL | LA-523-427 | U    | < 51.0 | ug/kg | 1.00           | 51      | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 37324-23-5  | Aroclor-1262                | SOIL | LA-523-427 | U    | < 51.0 | ug/kg | 1.00           | 51      | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 11100-14-4  | Aroclor-1268                | SOIL | LA-523-427 | U    | < 51.0 | ug/kg | 1.00           | 51      | 12/15/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 100-02-7    | 4-Nitrophenol               | SOIL | LA-523-456 | U    | < 680  | ug/kg | 1.00           | 6.8e+02 | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 106-46-7    | 1,4-Dichlorobenzene         | SOIL | LA-523-456 | U    | < 330  | ug/kg | 1.00           | 3.3e+02 | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 108-95-2    | Phenol                      | SOIL | LA-523-456 | U    | < 110  | ug/kg | 1.00           | 1.1e+02 | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 120-82-1    | 1,2,4-Trichlorobenzene      | SOIL | LA-523-456 | U    | < 310  | ug/kg | 1.00           | 3.1e+02 | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 121-14-2    | 2,4-Dinitrotoluene          | SOIL | LA-523-456 | U    | < 70.0 | ug/kg | 1.00           | 70      | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 129-00-0    | Pyrene                      | SOIL | LA-523-456 | U    | < 70.0 | ug/kg | 1.00           | 70      | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 59-50-7     | 4-Chloro-3-methylphenol     | SOIL | LA-523-456 | U    | < 70.0 | ug/kg | 1.00           | 70      | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 621-64-7    | N-Nitrosodi-n-dipropylamine | SOIL | LA-523-456 | U    | < 70.0 | ug/kg | 1.00           | 70      | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 83-32-9     | Acenaphthene                | SOIL | LA-523-456 | U    | < 70.0 | ug/kg | 1.00           | 70      | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 87-86-5     | Pentachlorophenol           | SOIL | LA-523-456 | U    | < 320  | ug/kg | 1.00           | 3.2e+02 | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 95-57-8     | 2-Chlorophenol              | SOIL | LA-523-456 | U    | < 150  | ug/kg | 1.00           | 1.5e+02 | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 126-73-8    | Tributyl phosphate          | SOIL | LA-523-456 | U    | < 70.0 | ug/kg | 1.00           | 70      | 12/29/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 75-35-4     | 1,1-Dichloroethene          | SOIL | LA-523-455 | U    | < 2.10 | ug/kg | 1.00           | 2.1     | 12/20/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 79-01-6     | Trichloroethene             | SOIL | LA-523-455 | U    | < 2.10 | ug/kg | 1.00           | 2.1     | 12/20/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 71-43-2     | Benzene                     | SOIL | LA-523-455 | U    | < 2.10 | ug/kg | 1.00           | 2.1     | 12/20/04 12/13/04 12/13/04 |
| W040002595     | B19941    | GRP   | TRENT          | 108-88-3    | Toluene                     | SOIL | LA-523-455 | U    | < 2.10 | ug/kg | 1.00           | 2.1     | 12/20/04 12/13/04 12/13/04 |

**MDL=Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorganic)

U - Analyzed for but not detected above limiting criteria.

**RQ=Result Qualifier**

**DF=Dilution Factor**

- - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

**Report WGPP/ver. 1.1**

**Groundwater Remediation Program**

# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:  
Project:**

Steve Trent  
F04-015: F04-015

**Group #:** WSCF20042394

| Sample #   | Client ID | CAS # | Test Performed | Matrix     | WSCF                      |      | Unit       | DF | MDL    | Analyze Sample | Receive |     |                            |
|------------|-----------|-------|----------------|------------|---------------------------|------|------------|----|--------|----------------|---------|-----|----------------------------|
|            |           |       |                |            | Method                    | RQ   |            |    |        |                |         |     |                            |
| W040002595 | B19941    | GRP   | TRENT          | 108-90-7   | Chlorobenzene             | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 75-34-3    | 1,1-Dichloroethane        | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 100-41-4   | Ethylbenzene              | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 100-42-5   | Styrene                   | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 10061-01-5 | cis-1,3-Dichloropropene   | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 10061-02-6 | trans-1,3-Dichloropropene | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 107-06-2   | 1,2-Dichloroethane        | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 108-10-1   | 4-Methyl-2-Pentanone      | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 124-48-1   | Dibromochloromethane      | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 127-18-4   | Tetrachloroethene         | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 1330-20-7  | Xylenes (total)           | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 540-59-0   | 1,2-Dichloroethene(Total) | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 56-23-5    | Carbon tetrachloride      | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 591-78-6   | 2-Hexanone                | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 67-64-1    | Acetone                   | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 67-66-3    | Chloroform                | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 71-55-6    | 1,1,1-Trichloroethane     | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 74-83-9    | Bromomethane              | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 74-87-3    | Chloromethane             | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 75-00-3    | Chloroethane              | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 75-01-4    | Vinyl chloride            | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 75-09-2    | Methylenechloride         | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 75-15-0    | Carbon disulfide          | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 75-25-2    | Bromoform                 | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 75-27-4    | Bromodichloromethane      | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 78-87-5    | 1,2-Dichloropropane       | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 78-93-3    | 2-Butanone                | SOIL | LA-523-455 | U  | < 2.10 | ug/kg          | 1.00    | 2.1 | 12/20/04 12/13/04 12/13/04 |

**MDL=Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorganic)

U - Analyzed for but not detected above limiting criteria.

**RQ=Result Qualifier**

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

*Report WGPP/ver. 1.1*

*Groundwater Remediation Program*

# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:**  
**Project:**

Steve Trent  
F04-015: F04-015

**Group #:** WSCF20042394

| Sample #   | Client ID | CAS # | Test Performed | Matrix      | WSCF                           |      | Result     | Unit | DF          | MDL   | Analyze Sample | Receive  |                            |
|------------|-----------|-------|----------------|-------------|--------------------------------|------|------------|------|-------------|-------|----------------|----------|----------------------------|
|            |           |       |                |             | Method                         | RQ   |            |      |             |       |                |          |                            |
| W040002595 | B19941    | GRP   | TRENT          | 79-00-5     | 1,1,2-Trichloroethane          | SOIL | LA-523-455 | U    | < 2.10      | ug/kg | 1.00           | 2.1      | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 79-34-5     | 1,1,2,2-Tetrachloroethane      | SOIL | LA-523-455 | U    | < 2.10      | ug/kg | 1.00           | 2.1      | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 71-36-3     | 1-Butanol                      | SOIL | LA-523-455 | U    | < 42.0      | ug/kg | 1.00           | 42       | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 104-51-8    | n-Butylbenzene                 | SOIL | LA-523-455 | U    | < 2.10      | ug/kg | 1.00           | 2.1      | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 156-60-5    | trans-1,2-Dichloroethylene     | SOIL | LA-523-455 | U    | < 2.10      | ug/kg | 1.00           | 2.1      | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | 156-59-2    | cis-1,2-Dichloroethylene       | SOIL | LA-523-455 | U    | < 2.10      | ug/kg | 1.00           | 2.1      | 12/20/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | TPHDIESEL   | Total Pet. Hydrocarbons Diesel | SOIL | NWTIPH     | U    | < 3.90e +03 | ug/kg | 1.00           | 3.9e +03 | 12/16/04 12/13/04 12/13/04 |
| W040002595 | B19941    | GRP   | TRENT          | TPHKEROSENE | Kerosene                       | SOIL | NWTIPH     | U    | < 3.90e +03 | ug/kg | 1.00           | 3.9e +03 | 12/16/04 12/13/04 12/13/04 |

**MDL=Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorganic)

U - Analyzed for but not detected above limiting criteria.

**RQ=Result Qualifier**

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

*Report WGPP/ver. 1.1*

*Groundwater Remediation Program*

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: PCBs complete list

SAF Number: F04-015  
 Sample Date: 12/02/04  
 Receive Date: 12/02/04

| QC Type                                | Analyte              | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|----------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID: W040002532</b>              |                      |            |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                      |            |          |          |         |               |             |             |    |
| MS                                     | Aroclor-1254         | 11097-69-1 | 1170.7   | 115.000  | % Recov | 12/15/04      | 75.000      | 125.000     |    |
| MS                                     | Decachlorobiphenyl   | 2051-24-3  | 919.97   | 90.000   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| MS                                     | Tetrachloro-m-xylene | 877-09-8   | 905.45   | 88.600   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| MSD                                    | Aroclor-1254         | 11097-69-1 | 1213.5   | 118.000  | % Recov | 12/15/04      | 75.000      | 125.000     |    |
| MSD                                    | Decachlorobiphenyl   | 2051-24-3  | 1001.2   | 97.000   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| MSD                                    | Tetrachloro-m-xylene | 877-09-8   | 234.89   | 22.800   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| SPK-RPD                                | Aroclor-1254         | 11097-69-1 | 118.000  | 2.575    | RPD     | 12/15/04      | 0.000       | 25.000      |    |
| SPK-RPD                                | Decachlorobiphenyl   | 2051-24-3  | 97.000   | 7.487    | RPD     | 12/15/04      | 0.000       | 20.000      |    |
| SPK-RPD                                | Tetrachloro-m-xylene | 877-09-8   | 22.800   | 118.133  | RPD     | 12/15/04      | 0.000       | 20.000      |    |
| <b>Lab ID: W040002595</b>              |                      |            |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                      |            |          |          |         |               |             |             |    |
| SURR                                   | Decachlorobiphenyl   | 2051-24-3  | 1000.2   | 98.100   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| SURR                                   | Tetrachloro-m-xylene | 877-09-8   | 129.14   | 12.700   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| <b>BATCH QC</b>                        |                      |            |          |          |         |               |             |             |    |
| BLANK                                  | Aroclor-1016         | 12674-11-2 | < 50     | n/a      | UGKG    | 12/15/04      |             |             | U  |
| BLANK                                  | Aroclor-1221         | 11104-28-2 | < 100    | n/a      | ug/Kg   | 12/15/04      |             |             | U  |
| BLANK                                  | Aroclor-1232         | 11141-16-5 | < 50     | n/a      | ug/Kg   | 12/15/04      |             |             | U  |
| BLANK                                  | Aroclor-1242         | 53469-21-9 | < 50     | n/a      | ug/Kg   | 12/15/04      |             |             | U  |
| BLANK                                  | Aroclor-1248         | 12672-29-6 | < 50     | n/a      | ug/Kg   | 12/15/04      |             |             | U  |
| BLANK                                  | Aroclor-1254         | 11097-69-1 | < 50     | n/a      | ug/Kg   | 12/15/04      |             |             | U  |
| BLANK                                  | Aroclor-1260         | 11096-82-5 | < 50     | n/a      | ug/Kg   | 12/15/04      |             |             | U  |
| BLANK                                  | Aroclor-1262         | 37324-23-5 | < 50     | n/a      | ug/Kg   | 12/15/04      |             |             | U  |
| BLANK                                  | Aroclor-1268         | 11100-14-4 | < 50     | n/a      | ug/Kg   | 12/15/04      |             |             | U  |
| BLANK                                  | Decachlorobiphenyl   | 2051-24-3  | 903.87   | 90.400   | % Recov | 12/15/04      | 50.000      | 150.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: PCBs complete list

SAF Number: F04-015  
 Sample Date:  
 Receive Date:

| QC Type | Analyte              | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|----------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| BLANK   | Tetrachloro-m-xylene | 877-09-8   | 911.11   | 91.100   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| LCS     | Aroclor-1254         | 11097-69-1 | 987.29   | 98.700   | % Recov | 12/15/04      | 70.000      | 130.000     |    |
| LCS     | Decachlorobiphenyl   | 2051-24-3  | 949.54   | 95.000   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| LCS     | Tetrachloro-m-xylene | 877-09-8   | 0.00     | 0.000    | % Recov | 12/15/04      | 50.000      | 150.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F04-015  
 Sample Date: 12/10/04  
 Receive Date: 12/10/04

| QC Type                                | Analyte                     | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|-----------------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID: W040002582</b>              |                             |            |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                             |            |          |          |         |               |             |             |    |
| MS                                     | 1,2,4-Trichlorobenzene      | 120-82-1   | 2961.9   | 84.700   | % Recov | 12/22/04      | 46.000      | 107.000     |    |
| MS                                     | 1,4-Dichlorobenzene         | 106-46-7   | 2872.5   | 82.200   | % Recov | 12/22/04      | 30.000      | 96.000      |    |
| MS                                     | 2,4-Dinitrotoluene          | 121-14-2   | 2825.9   | 80.800   | % Recov | 12/22/04      | 59.000      | 106.000     |    |
| MS                                     | 2-Fluorophenol              | 367-12-4   | 3119.9   | 89.200   | % Recov | 12/22/04      | 42.000      | 105.000     |    |
| MS                                     | Acenaphthene                | 83-32-9    | 3226.6   | 92.300   | % Recov | 12/22/04      | 61.000      | 116.000     |    |
| MS                                     | 4-Chloro-3-methylphenol     | 59-50-7    | 4806.0   | 91.700   | % Recov | 12/22/04      | 61.000      | 106.000     |    |
| MS                                     | 2-Chlorophenol              | 95-57-8    | 4382.0   | 83.600   | % Recov | 12/22/04      | 66.000      | 106.000     |    |
| MS                                     | N-Nitrosodi-n-dipropylamine | 621-64-7   | 3334.7   | 95.400   | % Recov | 12/22/04      | 71.000      | 114.000     |    |
| MS                                     | 2-Fluorobiphenyl            | 321-60-8   | 3037.1   | 86.900   | % Recov | 12/22/04      | 56.000      | 122.000     |    |
| MS                                     | Phenol                      | 108-95-2   | 5033.6   | 96.000   | % Recov | 12/22/04      | 42.000      | 111.000     |    |
| MS                                     | Nitrobenzene-d5             | 4165-60-0  | 3241.8   | 92.700   | % Recov | 12/22/04      | 64.000      | 111.000     |    |
| MS                                     | 4-Nitrophenol               | 100-02-7   | 5048.7   | 96.300   | % Recov | 12/22/04      | 32.000      | 118.000     |    |
| MS                                     | Pentachlorophenol           | 87-86-5    | 4082.1   | 77.800   | % Recov | 12/22/04      | 62.000      | 114.000     |    |
| MS                                     | Phenol-d5                   | 4165-62-2  | 3408.5   | 97.500   | % Recov | 12/22/04      | 54.000      | 120.000     |    |
| MS                                     | Pyrene                      | 129-00-0   | 2863.3   | 81.900   | % Recov | 12/22/04      | 66.000      | 118.000     |    |
| MS                                     | 2,4,6-Tribromophenol        | 118-79-6   | 3209.4   | 91.800   | % Recov | 12/22/04      | 24.000      | 122.000     |    |
| MS                                     | Terphenyl-d14 (7Cl)         | 98904-43-9 | 3128.5   | 89.500   | % Recov | 12/22/04      | 35.000      | 150.000     |    |
| MSD                                    | 1,2,4-Trichlorobenzene      | 120-82-1   | 2829.6   | 81.000   | % Recov | 12/22/04      | 46.000      | 107.000     |    |
| MSD                                    | 1,4-Dichlorobenzene         | 106-46-7   | 2727.4   | 78.100   | % Recov | 12/22/04      | 30.000      | 96.000      |    |
| MSD                                    | 2,4-Dinitrotoluene          | 121-14-2   | 2690.2   | 77.000   | % Recov | 12/22/04      | 59.000      | 106.000     |    |
| MSD                                    | 2-Fluorophenol              | 367-12-4   | 3026.0   | 86.600   | % Recov | 12/22/04      | 42.000      | 105.000     |    |
| MSD                                    | Acenaphthene                | 83-32-9    | 3025.5   | 86.600   | % Recov | 12/22/04      | 61.000      | 116.000     |    |
| MSD                                    | 4-Chloro-3-methylphenol     | 59-50-7    | 4603.5   | 87.900   | % Recov | 12/22/04      | 61.000      | 106.000     |    |
| MSD                                    | 2-Chlorophenol              | 95-57-8    | 4113.5   | 78.500   | % Recov | 12/22/04      | 66.000      | 106.000     |    |
| MSD                                    | N-Nitrosodi-n-dipropylamine | 621-64-7   | 3239.2   | 92.700   | % Recov | 12/22/04      | 71.000      | 114.000     |    |
| MSD                                    | 2-Fluorobiphenyl            | 321-60-8   | 2961.6   | 84.800   | % Recov | 12/22/04      | 56.000      | 122.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F04-015  
 Sample Date: 12/10/04  
 Receive Date: 12/10/04

| QC Type | Analyte                     | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|-----------------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| MSD     | Phenol                      | 108-95-2   | 4875.8   | 93.100   | % Recov | 12/22/04      | 42.000      | 111.000     |    |
| MSD     | Nitrobenzene-d5             | 4165-60-0  | 3161.2   | 90.500   | % Recov | 12/22/04      | 64.000      | 111.000     |    |
| MSD     | 4-Nitrophenol               | 100-02-7   | 4830.5   | 92.200   | % Recov | 12/22/04      | 32.000      | 118.000     |    |
| MSD     | Pentachlorophenol           | 87-86-5    | 3962.4   | 75.600   | % Recov | 12/22/04      | 62.000      | 114.000     |    |
| MSD     | Phenol-d5                   | 4165-62-2  | 2846.9   | 81.500   | % Recov | 12/22/04      | 54.000      | 120.000     |    |
| MSD     | Pyrene                      | 129-00-0   | 2748.0   | 78.700   | % Recov | 12/22/04      | 66.000      | 118.000     |    |
| MSD     | 2,4,6-Tribromophenol        | 118-79-6   | 2965.3   | 84.900   | % Recov | 12/22/04      | 24.000      | 122.000     |    |
| MSD     | Terphenyl-d14 (7Cl)         | 98904-43-9 | 3030.8   | 86.800   | % Recov | 12/22/04      | 35.000      | 150.000     |    |
| SPK-RPD | 1,2,4-Trichlorobenzene      | 120-82-1   | 81.000   | 4.466    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | 1,4-Dichlorobenzene         | 106-46-7   | 78.100   | 5.115    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | 2,4-Dinitrotoluene          | 121-14-2   | 77.000   | 4.816    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | 2-Fluorophenol              | 367-12-4   | 86.600   | 2.958    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | Acenaphthene                | 83-32-9    | 86.600   | 6.372    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | 4-Chloro-3-methylphenol     | 59-50-7    | 87.900   | 4.232    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | 2-Chlorophenol              | 95-57-8    | 78.500   | 6.292    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | N-Nitrosodi-n-dipropylamine | 621-64-7   | 92.700   | 2.871    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | 2-Fluorobiphenyl            | 321-60-8   | 84.800   | 2.446    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | Phenol                      | 108-95-2   | 93.100   | 3.067    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | Nitrobenzene-d5             | 4165-60-0  | 90.500   | 2.402    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | 4-Nitrophenol               | 100-02-7   | 92.200   | 4.350    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | Pentachlorophenol           | 87-86-5    | 75.600   | 2.868    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | Phenol-d5                   | 4165-62-2  | 81.500   | 17.877   | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | Pyrene                      | 129-00-0   | 78.700   | 3.985    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | 2,4,6-Tribromophenol        | 118-79-6   | 84.900   | 7.810    | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| SPK-RPD | Terphenyl-d14 (7Cl)         | 98904-43-9 | 86.800   | 3.063    | RPD     | 12/29/04      | 0.000       | 20.000      |    |

Lab ID: W040002595  
 BATCH QC ASSOCIATED WITH SAMPLE

|      |                  |          |        |        |         |          |        |         |
|------|------------------|----------|--------|--------|---------|----------|--------|---------|
| SURR | 2-Fluorophenol   | 367-12-4 | 2873.1 | 82.000 | % Recov | 12/29/04 | 42.000 | 105.000 |
| SURR | 2-Fluorobiphenyl | 321-60-8 | 3343.6 | 95.500 | % Recov | 12/29/04 | 56.000 | 122.000 |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F04-015  
 Sample Date: 12/13/04  
 Receive Date: 12/13/04

| QC Type         | Analyte                     | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|-----------------|-----------------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| SURR            | Nitrobenzene-d5             | 4165-60-0  | 3067.2   | 87.600   | % Recov | 12/29/04      | 64.000      | 111.000     |    |
| SURR            | Phenol-d5                   | 4165-62-2  | 3390.2   | 96.800   | % Recov | 12/29/04      | 54.000      | 120.000     |    |
| SURR            | 2,4,6-Tribromophenol        | 118-79-6   | 3167.2   | 90.400   | % Recov | 12/29/04      | 24.000      | 122.000     |    |
| SURR            | Terphenyl-d14 (7Cl)         | 98904-43-9 | 3179.8   | 90.800   | % Recov | 12/29/04      | 35.000      | 150.000     |    |
| <b>BATCH QC</b> |                             |            |          |          |         |               |             |             |    |
| BLANK           | 1,2,4-Trichlorobenzene      | 120-82-1   | < 290    | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | 1,4-Dichlorobenzene         | 106-46-7   | < 310    | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | 2,4-Dinitrotoluene          | 121-14-2   | < 67     | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | 2-Fluorophenol              | 367-12-4   | 2255.7   | 67.700   | % Recov | 12/22/04      | 42.000      | 105.000     |    |
| BLANK           | Acenaphthene                | 83-32-9    | < 67     | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | 4-Chloro-3-methylphenol     | 59-50-7    | < 67     | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | 2-Chlorophenol              | 95-57-8    | < 150    | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | N-Nitrosodi-n-dipropylamine | 621-64-7   | < 67     | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | 2-Fluorobiphenyl            | 321-60-8   | 2559.3   | 76.800   | % Recov | 12/22/04      | 56.000      | 122.000     |    |
| BLANK           | Phenol                      | 108-95-2   | < 100    | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | Nitrobenzene-d5             | 4165-60-0  | 2771.8   | 83.200   | % Recov | 12/22/04      | 64.000      | 111.000     |    |
| BLANK           | 4-Nitrophenol               | 100-02-7   | < 650    | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | Pentachlorophenol           | 87-86-5    | < 300    | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | Phenol-d5                   | 4165-62-2  | 2263.9   | 67.900   | % Recov | 12/22/04      | 54.000      | 120.000     |    |
| BLANK           | Pyrene                      | 129-00-0   | < 67     | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | Tributyl phosphate          | 126-73-8   | < 67     | n/a      | ug/Kg   | 12/22/04      |             |             | U  |
| BLANK           | 2,4,6-Tribromophenol        | 118-79-6   | 2001.2   | 60.000   | % Recov | 12/22/04      | 24.000      | 122.000     |    |
| BLANK           | Terphenyl-d14 (7Cl)         | 98904-43-9 | 2527.8   | 75.800   | % Recov | 12/22/04      | 35.000      | 150.000     |    |
| LCS             | 1,2,4-Trichlorobenzene      | 120-82-1   | 3009.0   | 90.300   | % Recov | 12/22/04      | 46.000      | 107.000     |    |
| LCS             | 1,4-Dichlorobenzene         | 106-46-7   | 2724.3   | 81.700   | % Recov | 12/22/04      | 42.000      | 111.000     |    |
| LCS             | 2,4-Dinitrotoluene          | 121-14-2   | 2651.7   | 79.600   | % Recov | 12/22/04      | 59.000      | 106.000     |    |
| LCS             | 2-Fluorophenol              | 367-12-4   | 3088.8   | 92.700   | % Recov | 12/22/04      | 50.000      | 110.000     |    |
| LCS             | Acenaphthene                | 83-32-9    | 3017.7   | 90.500   | % Recov | 12/22/04      | 61.000      | 116.000     |    |
| LCS             | 4-Chloro-3-methylphenol     | 59-50-7    | 4589.5   | 91.800   | % Recov | 12/22/04      | 61.000      | 106.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: SW-846 8270B Semi-Vols

SAF Number: F04-015  
 Sample Date:  
 Receive Date:

| QC Type | Analyte                     | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|-----------------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| LCS     | 2-Chlorophenol              | 95-57-8    | 3980.8   | 79.600   | % Recov | 12/22/04      | 66.000      | 106.000     |    |
| LCS     | N-Nitrosodi-n-dipropylamine | 621-64-7   | 3085.9   | 92.600   | % Recov | 12/22/04      | 71.000      | 114.000     |    |
| LCS     | 2-Fluorobiphenyl            | 321-60-8   | 2962.6   | 88.900   | % Recov | 12/22/04      | 58.000      | 109.000     |    |
| LCS     | Phenol                      | 108-95-2   | 4769.1   | 95.400   | % Recov | 12/22/04      | 67.000      | 105.000     |    |
| LCS     | Nitrobenzene-d5             | 4165-60-0  | 3237.8   | 97.100   | % Recov | 12/22/04      | 60.000      | 118.000     |    |
| LCS     | 4-Nitrophenol               | 100-02-7   | 4823.4   | 96.500   | % Recov | 12/22/04      | 32.000      | 118.000     |    |
| LCS     | Pentachlorophenol           | 87-86-5    | 3906.7   | 78.100   | % Recov | 12/22/04      | 62.000      | 114.000     |    |
| LCS     | Phenol-d5                   | 4165-62-2  | 3643.2   | 109.000  | % Recov | 12/22/04      | 59.000      | 116.000     |    |
| LCS     | Pyrene                      | 129-00-0   | 2732.4   | 82.000   | % Recov | 12/22/04      | 66.000      | 118.000     |    |
| LCS     | 2,4,6-Tribromophenol        | 118-79-6   | 3110.4   | 93.300   | % Recov | 12/22/04      | 60.000      | 120.000     |    |
| LCS     | Terphenyl-d14 (7Cl)         | 98904-43-9 | 3008.5   | 90.300   | % Recov | 12/22/04      | 60.000      | 120.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: F04-015

Sample Date: 12/10/04

Receive Date: 12/10/04

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|

Lab ID: W040002582

## BATCH QC ASSOCIATED WITH SAMPLE

|         |                 |             |         |         |         |          |          |         |         |
|---------|-----------------|-------------|---------|---------|---------|----------|----------|---------|---------|
| MS      | Kerosene        | TPHKEROSENE | 125310  | 95.300  | % Recov | 12/15/04 | 70.000   | 130.000 |         |
| MS      | ortho-Terphenyl | Surr        | 84-15-1 | 27201   | 103.000 | % Recov  | 12/15/04 | 70.000  | 130.000 |
| MSD     | Kerosene        | TPHKEROSENE | 121810  | 92.500  | % Recov | 12/15/04 | 70.000   | 130.000 |         |
| MSD     | ortho-Terphenyl | Surr        | 84-15-1 | 27460   | 104.000 | % Recov  | 12/15/04 | 70.000  | 130.000 |
| SPK-RPD | ortho-Terphenyl | Surr        | 84-15-1 | 104.000 | 0.966   | RPD      | 12/15/04 | 0.000   | 20.000  |

Lab ID: W040002595

## BATCH QC ASSOCIATED WITH SAMPLE

|      |                 |      |         |       |         |         |          |        |         |
|------|-----------------|------|---------|-------|---------|---------|----------|--------|---------|
| SURR | ortho-Terphenyl | Surr | 84-15-1 | 26520 | 101.000 | % Recov | 12/16/04 | 70.000 | 130.000 |
|------|-----------------|------|---------|-------|---------|---------|----------|--------|---------|

## BATCH QC

|       |                                |             |         |        |         |          |          |         |         |
|-------|--------------------------------|-------------|---------|--------|---------|----------|----------|---------|---------|
| BLANK | Kerosene                       | TPHKEROSENE | < 3800  | n/a    | ug/Kg   | 12/15/04 |          |         | U       |
| BLANK | ortho-Terphenyl                | Surr        | 84-15-1 | 23436  | 93.700  | % Recov  | 12/15/04 | 70.000  | 130.000 |
| BLANK | Total Pet. Hydrocarbons Diesel | TPHDIESEL   | < 3800  | n/a    | ug/Kg   | 12/15/04 |          |         | U       |
| LCS   | ortho-Terphenyl                | Surr        | 84-15-1 | 49132  | 98.300  | % Recov  | 12/15/04 | 70.000  | 130.000 |
| LCS   | Total Pet. Hydrocarbons Diesel | TPHDIESEL   | 117760  | 94.200 | % Recov | 12/15/04 | 80.000   | 120.000 |         |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: NWTPH-GX TPH Gasoline Range

SAF Number: F04-015

Sample Date: 12/02/04

Receive Date: 12/02/04

| QC Type                                | Analyte                     | CAS #       | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|-----------------------------|-------------|----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID: W040002532</b>              |                             |             |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                             |             |          |          |         |               |             |             |    |
| MS                                     | Total Pet. Hydrocarbons Gas | TPHGASOLINE | 3500     | 97.222   | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| MSD                                    | Total Pet. Hydrocarbons Gas | TPHGASOLINE | 3600     | 100.000  | % Recov | 12/15/04      | 50.000      | 150.000     |    |
| SPK-RPD                                | Total Pet. Hydrocarbons Gas | TPHGASOLINE | 100.000  | 2.817    | RPD     | 12/15/04      | 0.000       | 20.000      |    |
| <b>Lab ID: W040002592</b>              |                             |             |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                             |             |          |          |         |               |             |             |    |
| DUP                                    | Total Pet. Hydrocarbons Gas | TPHGASOLINE | <250     | n/a      | RPD     | 12/15/04      | 0.000       | 20.000      | U  |
| <b>BATCH QC</b>                        |                             |             |          |          |         |               |             |             |    |
| BLANK                                  | Total Pet. Hydrocarbons Gas | TPHGASOLINE | <250     | n/a      | mg/L    | 12/15/04      | 0.000       | 300.000     | U  |
| LCS                                    | Total Pet. Hydrocarbons Gas | TPHGASOLINE | 1044     | 81.818   | % Recov | 12/15/04      | 85.000      | 115.000     | *  |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: VOA Ground Water Protection

SAF Number: F04-015

Sample Date: 12/10/04

Receive Date: 12/10/04

| QC Type                                | Analyte               | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|-----------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID: W040002585</b>              |                       |            |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                       |            |          |          |         |               |             |             |    |
| MS                                     | 1,1-Dichloroethene    | 75-35-4    | 26.380   | 106.000  | % Recov | 12/20/04      | 63.000      | 117.000     |    |
| MS                                     | Benzene               | 71-43-2    | 27.270   | 109.000  | % Recov | 12/20/04      | 75.000      | 129.000     |    |
| MS                                     | 4-Bromofluorobenzene  | 460-00-4   | 50.200   | 100.000  | % Recov | 12/20/04      | 84.000      | 116.000     |    |
| MS                                     | Chlorobenzene         | 108-90-7   | 28.160   | 113.000  | % Recov | 12/20/04      | 79.000      | 119.000     |    |
| MS                                     | 1,2-Dichloroethane-d4 | 17060-07-0 | 54.750   | 110.000  | % Recov | 12/20/04      | 82.000      | 136.000     |    |
| MS                                     | Toluene-d8            | 2037-26-5  | 51.380   | 103.000  | % Recov | 12/20/04      | 89.000      | 119.000     |    |
| MS                                     | Toluene               | 108-88-3   | 26.600   | 106.000  | % Recov | 12/20/04      | 76.000      | 120.000     |    |
| MS                                     | Trichloroethene       | 79-01-6    | 25.880   | 104.000  | % Recov | 12/20/04      | 73.000      | 123.000     |    |
| MSD                                    | 1,1-Dichloroethene    | 75-35-4    | 25.150   | 101.000  | % Recov | 12/20/04      | 63.000      | 117.000     |    |
| MSD                                    | Benzene               | 71-43-2    | 26.600   | 106.000  | % Recov | 12/20/04      | 75.000      | 129.000     |    |
| MSD                                    | 4-Bromofluorobenzene  | 460-00-4   | 49.020   | 98.000   | % Recov | 12/20/04      | 84.000      | 116.000     |    |
| MSD                                    | Chlorobenzene         | 108-90-7   | 28.730   | 115.000  | % Recov | 12/20/04      | 79.000      | 119.000     |    |
| MSD                                    | 1,2-Dichloroethane-d4 | 17060-07-0 | 56.670   | 113.000  | % Recov | 12/20/04      | 82.000      | 136.000     |    |
| MSD                                    | Toluene-d8            | 2037-26-5  | 51.320   | 103.000  | % Recov | 12/20/04      | 89.000      | 119.000     |    |
| MSD                                    | Toluene               | 108-88-3   | 28.410   | 114.000  | % Recov | 12/20/04      | 76.000      | 120.000     |    |
| MSD                                    | Trichloroethene       | 79-01-6    | 27.590   | 110.000  | % Recov | 12/20/04      | 73.000      | 123.000     |    |
| SPK-RPD                                | 1,1-Dichloroethene    | 75-35-4    | 101.000  | 4.831    | RPD     | 12/20/04      | 0.000       | 25.000      |    |
| SPK-RPD                                | Benzene               | 71-43-2    | 106.000  | 2.791    | RPD     | 12/20/04      | 0.000       | 25.000      |    |
| SPK-RPD                                | 4-Bromofluorobenzene  | 460-00-4   | 98.000   | 2.020    | RPD     | 12/20/04      | 0.000       | 25.000      |    |
| SPK-RPD                                | Chlorobenzene         | 108-90-7   | 115.000  | 1.754    | RPD     | 12/20/04      | 0.000       | 25.000      |    |
| SPK-RPD                                | 1,2-Dichloroethane-d4 | 17060-07-0 | 113.000  | 2.691    | RPD     | 12/20/04      | 0.000       | 25.000      |    |
| SPK-RPD                                | Toluene-d8            | 2037-26-5  | 103.000  | 0.000    | RPD     | 12/20/04      | 0.000       | 25.000      |    |
| SPK-RPD                                | Toluene               | 108-88-3   | 114.000  | 7.273    | RPD     | 12/20/04      | 0.000       | 25.000      |    |
| SPK-RPD                                | Trichloroethene       | 79-01-6    | 110.000  | 5.607    | RPD     | 12/20/04      | 0.000       | 25.000      |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: VOA Ground Water Protection

SAF Number: F04-015

Sample Date: 12/13/04

Receive Date: 12/13/04

| QC Type                                | Analyte                   | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|---------------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID:</b> W040002595              |                           |            |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                           |            |          |          |         |               |             |             |    |
| SURR                                   | 4-Bromofluorobenzene      | 460-00-4   | 50.540   | 101.000  | % Recov | 12/20/04      | 71.000      | 125.000     |    |
| SURR                                   | 1,2-Dichloroethane-d4     | 17060-07-0 | 54.820   | 110.000  | % Recov | 12/20/04      | 80.000      | 134.000     |    |
| SURR                                   | Toluene-d8                | 2037-26-5  | 51.840   | 104.000  | % Recov | 12/20/04      | 80.000      | 126.000     |    |
| <b>BATCH QC</b>                        |                           |            |          |          |         |               |             |             |    |
| BLANK                                  | 1,1-Dichloroethane        | 75-34-3    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 1,1,1-Trichloroethane     | 71-55-6    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 1,1,2-Trichloroethane     | 79-00-5    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 1,1,2,2-Tetrachloroethane | 79-34-5    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 1,1-Dichloroethene        | 75-35-4    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 1,2-Dichloroethane        | 107-06-2   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 1,2-Dichloroethene(Total) | 540-59-0   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 1-Butanol                 | 71-36-3    | < 40     | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 2-Hexanone                | 591-78-6   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 4-Methyl-2-Pentanone      | 108-10-1   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | Acetone                   | 67-64-1    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | Bromodichloromethane      | 75-27-4    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | Benzene                   | 71-43-2    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | 4-Bromofluorobenzene      | 460-00-4   | 49.610   | 99.200   | % Recov | 12/20/04      | 71.000      | 125.000     |    |
| BLANK                                  | Bromoform                 | 75-25-2    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | n-Butylbenzene            | 104-51-8   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | Carbon disulfide          | 75-15-0    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | Carbon tetrachloride      | 56-23-5    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | Dibromochloromethane      | 124-48-1   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | Chloroform                | 67-66-3    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | Chlorobenzene             | 108-90-7   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK                                  | cis-1,2-Dichloroethylene  | 156-59-2   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: VOA Ground Water Protection

SAF Number: F04-015

Sample Date:

Receive Date:

| QC Type | Analyte                    | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|----------------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| BLANK   | cis-1,3-Dichloropropene    | 10061-01-5 | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Chloroethane               | 75-00-3    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | 1,2-Dichloroethane-d4      | 17060-07-0 | 55.320   | 111.000  | % Recov | 12/20/04      | 80.000      | 134.000     |    |
| BLANK   | trans-1,2-Dichloroethylene | 156-60-5   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | 1,2-Dichloropropane        | 78-87-5    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Ethylbenzene               | 100-41-4   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Bromomethane               | 74-83-9    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Chloromethane              | 74-87-3    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | 2-Butanone                 | 78-93-3    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Methylenechloride          | 75-09-2    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Tetrachloroethene          | 127-18-4   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Styrene                    | 100-42-5   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Xylenes (total)            | 1330-20-7  | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Toluene-d8                 | 2037-26-5  | 53.170   | 106.000  | % Recov | 12/20/04      | 80.000      | 126.000     |    |
| BLANK   | Toluene                    | 108-88-3   | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | trans-1,3-Dichloropropene  | 10061-02-6 | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Trichloroethene            | 79-01-6    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| BLANK   | Vinyl chloride             | 75-01-4    | < 2.0    | n/a      | ug/Kg   | 12/20/04      |             |             | U  |
| LCS     | 1,1-Dichloroethene         | 75-35-4    | 24.380   | 97.500   | % Recov | 12/20/04      | 70.000      | 130.000     |    |
| LCS     | Benzene                    | 71-43-2    | 27.130   | 109.000  | % Recov | 12/20/04      | 70.000      | 130.000     |    |
| LCS     | 4-Bromofluorobenzene       | 460-00-4   | 50.850   | 102.000  | % Recov | 12/20/04      | 71.000      | 125.000     |    |
| LCS     | Chlorobenzene              | 108-90-7   | 28.470   | 114.000  | % Recov | 12/20/04      | 70.000      | 130.000     |    |
| LCS     | 1,2-Dichloroethane-d4      | 17060-07-0 | 59.680   | 119.000  | % Recov | 12/20/04      | 80.000      | 134.000     |    |
| LCS     | Toluene-d8                 | 2037-26-5  | 54.090   | 108.000  | % Recov | 12/20/04      | 80.000      | 126.000     |    |
| LCS     | Toluene                    | 108-88-3   | 27.430   | 110.000  | % Recov | 12/20/04      | 70.000      | 130.000     |    |
| LCS     | Trichloroethene            | 79-01-6    | 27.250   | 109.000  | % Recov | 12/20/04      | 70.000      | 130.000     |    |

# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent      **Group #:** WSCF20042394  
**Project:** F04-015: F04-015

| Sample #              | Client ID | CAS # | Test Performed | Matrix     | WSCF Method                    | RQ   | Result     | Unit | DF       | MDL   | Analyze Sample | Receive |
|-----------------------|-----------|-------|----------------|------------|--------------------------------|------|------------|------|----------|-------|----------------|---------|
| <b>Radiochemistry</b> |           |       |                |            |                                |      |            |      |          |       |                |         |
| W040002595            | B19941    | GRP   | TRENT          | 14596-10-2 | Americium-241                  | SOIL | LA-508-471 |      | 0.0480   | pCi/g | 1.00           | 0.013   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Am-241 by AEA Total Cntg Error | SOIL | LA-508-471 | +-   | 0.020    | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | 10198-40-0 | Cobalt-60                      | SOIL | LA-508-481 | U    | 2.49e-03 | pCi/g | 1.00           | 0.012   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Co-60 Rel. Count Error (GEA)   | SOIL | LA-508-481 | +-   | 7.2e-03  | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | 10045-97-3 | Cesium-137                     | SOIL | LA-508-481 | U    | 3.19e-03 | pCi/g | 1.00           | 0.012   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Cs-137 Rel. Count Error (GEA)  | SOIL | LA-508-481 | +-   | 8.1e-03  | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | 14683-23-9 | Europium-152                   | SOIL | LA-508-481 | U    | -0.0301  | pCi/g | 1.00           | 0.032   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Eu-152 Rel. Count Error (GEA)  | SOIL | LA-508-481 | +-   | 0.030    | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | 15585-10-1 | Europium-154                   | SOIL | LA-508-481 | U    | -0.0223  | pCi/g | 1.00           | 0.038   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Eu-154 Rel. Count Error (GEA)  | SOIL | LA-508-481 | +-   | 0.024    | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | 14391-16-3 | Europium-155                   | SOIL | LA-508-481 | U    | 0.0210   | pCi/g | 1.00           | 0.050   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Eu-155 Rel. Count Error (GEA)  | SOIL | LA-508-481 | +-   | 0.030    | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | 13981-16-3 | Plutonium-238                  | SOIL | LA-508-471 | U    | 0.0420   | pCi/g | 1.00           | 0.045   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Pu-238 by AEA Total Cntg Error | SOIL | LA-508-471 | +-   | 0.032    | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | PU-239/240 | Pu-239/240 by AEA              | SOIL | LA-508-471 | U    | 0.0130   | pCi/g | 1.00           | 0.016   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Pu-239/240 AEA Total Cntg Err  | SOIL | LA-508-471 | +-   | 0.013    | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | SR-RAD     | Strontrium-89/90               | SOIL | LA-508-415 |      | 0.260    | pCi/g | 1.00           | 0.20    |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | Sr-89/90 Rel. Count Error      | SOIL | LA-508-415 | +-   | 0.47     | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | U-233/234  | Uranium-233/234                | SOIL | LA-508-471 |      | 0.160    | pCi/g | 1.00           | 0.012   |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | U-233/234 AEA Total Cntg Error | SOIL | LA-508-471 | +-   | 0.053    | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | 15117-96-1 | Uranium-235                    | SOIL | LA-508-471 | U    | 3.70e-03 | pCi/g | 1.00           | 5.0e-03 |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | U-235 by AEA Total Cntg Error  | SOIL | LA-508-471 | +-   | 5.2e-03  | pCi/g | 1.00           | 0.0     |
| W040002595            | B19941    | GRP   | TRENT          | U-238      | Uranium-238                    | SOIL | LA-508-471 |      | 0.160    | pCi/g | 1.00           | 4.6e-03 |
| W040002595            | B19941    | GRP   | TRENT          | E,T,C      | U-238 by AEA Total Cntg Error  | SOIL | LA-508-471 | +-   | 0.053    | pCi/g | 1.00           | 0.10    |

**MDL=Minimum Detection Limit**

B - The analyte < the RDL but > = the IDL/MDL (inorganic)

U - Analyzed for but not detected above limiting criteria.

**RQ=Result Qualifier**

**DF=Dilution Factor**

.. Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

*Report WGPP/ver. 1.1*

*Groundwater Remediation Program*

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: Americium by AEA

SAF Number: F04-015  
 Sample Date: 11/24/04  
 Receive Date: 12/13/04

| QC Type                                | Analyte       | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|---------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID: W040002592</b>              |               |            |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |               |            |          |          |         |               |             |             |    |
| DUP                                    | Americium-241 | 14596-10-2 | 3.4e-02  | 38.596   | RPD     | 01/06/05      | 0.000       | 20.000      | *  |
| <b>BATCH QC</b>                        |               |            |          |          |         |               |             |             |    |
| BLANK                                  | Americium-241 | 14596-10-2 | 6.9e-02  | 0.069    | pCi/g   | 01/06/05      | -10.000     | 1000.000    |    |
| LCS                                    | Americium-241 | 14596-10-2 | 43.74    | 90.936   | % Recov | 01/06/05      | 75.000      | 125.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394

Matrix: SOLID

Test: Gamma Energy Analysis-grd H<sub>2</sub>O

SAF Number: F04-015

Sample Date: 12/13/04

Receive Date: 12/13/04

| QC Type | Analyte | CAS # | QC Found | QC Yield | Units | Analysis Date | Lower Limit | Upper Limit | RQ |
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|
|---------|---------|-------|----------|----------|-------|---------------|-------------|-------------|----|

Lab ID: W040002593

## BATCH QC ASSOCIATED WITH SAMPLE

|     |              |            |           |       |     |          |       |        |
|-----|--------------|------------|-----------|-------|-----|----------|-------|--------|
| DUP | Cobalt-60    | 10198-40-0 | U2.39e-03 | n/a   | RPD | 12/14/04 | 0.000 | 20.000 |
| DUP | Cesium-137   | 10045-97-3 | 5.29e-01  | 3.071 | RPD | 12/14/04 | 0.000 | 20.000 |
| DUP | Europium-152 | 14683-23-9 | U2.97e-03 | n/a   | RPD | 12/14/04 | 0.000 | 20.000 |
| DUP | Europium-154 | 15585-10-1 | U-8.70e-4 | n/a   | RPD | 12/14/04 | 0.000 | 20.000 |
| DUP | Europium-155 | 14391-16-3 | U4.43e-02 | n/a   | RPD | 12/14/04 | 0.000 | 20.000 |

## BATCH QC

|       |              |            |          |         |         |          |         |          |
|-------|--------------|------------|----------|---------|---------|----------|---------|----------|
| BLANK | Cobalt-60    | 10198-40-0 | U-8.2e-4 | n/a     | pCi/g   | 12/15/04 | -10.000 | 1000.000 |
| BLANK | Cesium-137   | 10045-97-3 | U-1.3e-3 | n/a     | pCi/g   | 12/15/04 | -10.000 | 1000.000 |
| BLANK | Europium-152 | 14683-23-9 | U-5.1e-3 | n/a     | pCi/g   | 12/15/04 | -10.000 | 1000.000 |
| BLANK | Europium-154 | 15585-10-1 | U-3.0e-3 | n/a     | pCi/g   | 12/15/04 | -10.000 | 1000.000 |
| BLANK | Europium-155 | 14391-16-3 | U-3.7e-3 | n/a     | pCi/g   | 12/15/04 | -10.000 | 1000.000 |
| LCS   | Cobalt-60    | 10198-40-0 | 4.37e+03 | 104.296 | % Recov | 12/15/04 | 80.000  | 120.000  |
| LCS   | Cesium-137   | 10045-97-3 | 3.83e+03 | 106.983 | % Recov | 12/15/04 | 80.000  | 120.000  |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: Plutonium Isotopes by AEA

SAF Number: F04-015  
 Sample Date: 11/24/04  
 Receive Date: 12/13/04

| QC Type                                | Analyte           | CAS #      | QC Found | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|-------------------|------------|----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID:</b> W040002592              |                   |            |          |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                   |            |          |          |         |               |             |             |    |
| DUP                                    | Pu-239/240 by AEA | PU-239/240 | 1.5e-02  | n/a      | RPD     | 01/07/05      | 0.000       | 20.000      |    |
| <b>BATCH QC</b>                        |                   |            |          |          |         |               |             |             |    |
| BLANK                                  | Pu-239/240 by AEA | PU-239/240 | U9.0e-03 | n/a      | pCi/g   | 01/07/05      | -10.000     | 1000.000    |    |
| LCS                                    | Pu-239/240 by AEA | PU-239/240 | 4.8e+01  | 97.561   | % Recov | 01/07/05      | 75.000      | 125.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: Strontium 89/90

SAF Number: F04-015  
 Sample Date: 11/24/04  
 Receive Date: 12/13/04

| QC Type                                | Analyte         | CAS #      | QC Found  | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|-----------------|------------|-----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID: W040002592</b>              |                 |            |           |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |                 |            |           |          |         |               |             |             |    |
| DUP                                    | Strontium-89/90 | SR-RAD     | U-2.6E-01 | n/a      | RPD     | 12/29/04      | 0.000       | 20.000      |    |
| <b>BATCH QC</b>                        |                 |            |           |          |         |               |             |             |    |
| BLANK                                  | Strontium-89/90 | 10098-97-2 | 9.7e-02   | 0.097    | pCi/g   | 12/29/04      | -10.000     | 300.000     |    |
| LCS                                    | Strontium-89/90 | 10098-97-2 | 68.8      | 96.765   | % Recov | 12/29/04      | 80.000      | 120.000     |    |

# WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20042394  
 Matrix: SOLID  
 Test: Uranium Isotopes by AEA

SAF Number: F04-015  
 Sample Date: 11/24/04  
 Receive Date: 12/13/04

| QC Type                                | Analyte     | CAS #      | QC Found  | QC Yield | Units   | Analysis Date | Lower Limit | Upper Limit | RQ |
|--|-------------|------------|-----------|----------|---------|---------------|-------------|-------------|----|
| <b>Lab ID: W040002592</b>              |             |            |           |          |         |               |             |             |    |
| <b>BATCH QC ASSOCIATED WITH SAMPLE</b> |             |            |           |          |         |               |             |             |    |
| DUP                                    | Uranium-238 | U-238      | 1.8e + 00 | 11.765   | RPD     | 01/06/05      | 0.000       | 20.000      |    |
| <b>BATCH QC</b>                        |             |            |           |          |         |               |             |             |    |
| BLANK                                  | Uranium-238 | 24678-82-8 | 1.6e -02  | 0.016    | pCi/g   | 01/06/05      | -10.000     | 1000.000    |    |
| LCS                                    | Uranium-238 | 24678-82-8 | 8.8e + 01 | 116.064  | % Recov | 01/06/05      | 75.000      | 125.000     |    |

**WSCF**  
**ANALYTICAL COMMENT REPORT**

**Attention:** Steve Trent  
**Project Number** F04-015

**Group #:** WSCF20042394

| Sample # | Client ID | Lab Area | Test | Comment  |
|----------|-----------|----------|------|--|
|          |           | VALGROUP |      | PCB: Low recoveries of the surrogate tetra-chloro-m-xylene (TCX) are due to evaporation of the TCX during excessive blowdown concentration. TCX is much more volatile than Aroclor PCBs or DCB surrogate. DCB and Aroclor recoveries are nominal in all samples, LCS, and Matrix spikes demonstrating that Aroclor PCBs if present, are not lost even with excessive blowdown concentration. Hence the aroclor recoveries are valid and not qualified. cgc,gar |
|          |           |          |      | TPH-G: LCS %REC out a little low at 82% but all other QC good. gar   |
|          |           |          |      | ORGANICS: Sample concentrations have been corrected for moisture and reported dry weight basis. gar  |
|          |           |          |      | ICP-MS:<br>Prep blank evaluated, no affect on sample data<br>Mercury LCS biased high; sample results >MDL E flag<br>All other LCS results within Manufacturer's specifications   |
|          |           |          |      | Am241 duplicate is flagged but the sample activity is low level so the RPD does not apply.lmh  |

**Lab Areas:** VALGROUP - Group Validation  
LOGSAMP - Login for Sample

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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# WSCF

## TENTATIVELY IDENTIFIED PEAK REPORT

**Attention:** Steve Trent  
**Project Number** F04-015 :F04-015

**Group #:** WSCF20042394

| Sample #   | Client ID |     |       | Test Name                     | Peak Name                      | CAS#    | RT       | RQ | Result   | Units |
|------------|-----------|-----|-------|-------------------------------|--------------------------------|---------|----------|----|----------|-------|
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | K-40 Count Error               |         |          |    | 13       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | PB-212 Count Error             |         |          |    | 14       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | PB-214 Count Error             |         |          |    | 15       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | TL-208 Count Error             |         |          |    | 17       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | BI-214 Count Error             |         |          |    | 17       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | RA-226 Count Error             |         |          |    | 17       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | AC-228 Count Error             |         |          |    | 17       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | RA-228 Count Error             |         |          |    | 17       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | SN-126 Count Error             |         |          |    | 25       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | BI-212 Count Error             |         |          |    | 27       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | U-235 Count Error              |         |          |    | 32       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | CS-134 Count Error             |         |          |    | 32       | %     |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | CS-134                         |         |          |    | 0.041    | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | SN-126                         |         |          |    | 0.16     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | TL-208                         |         |          |    | 0.21     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | BI-214                         |         |          |    | 0.47     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | RA-226                         |         |          |    | 0.47     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | BI-212                         |         |          |    | 0.47     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | PB-214                         |         |          |    | 0.50     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | AC-228                         |         |          |    | 0.65     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | RA-228                         |         |          |    | 0.65     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | PB-212                         |         |          |    | 0.70     | pCi/g |
| W040002595 | B19941    | GRP | TRENT | Gamma Energy Analysis-grd H2O | K-40                           |         |          |    | 14       | pCi/g |
| W040002595 | B19941    | GRP | TRENT | SW-846 8270B Semi-Vols        | SMP 10.865 Diethylphthalate    | 84-66-2 | 10.86586 |    | 5.4e +02 | ug/kg |
| W040002595 | B19941    | GRP | TRENT | SW-846 8270B Semi-Vols        | SMP 14.657 Di-n-butylphthalate | 84-74-2 | 14.657   |    | 2.1e +02 | ug/kg |

**RQ=**Result Qualifier

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**Groundwater Remediation Program**

WGPPE v 1.1 Report #: 20042394

Report Date: 11-jan-2005

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**WSCF**  
**TENTATIVELY IDENTIFIED PEAK REPORT**

**Attention:** Steve Trent  
**Project Number** F04-015 :F04-015

**Group #:** WSCF20042394

| Sample # | Client ID | Test Name | Peak Name | CAS# | RT | RQ | Result | Units |
|----------|-----------|-----------|-----------|------|----|----|--------|-------|
|----------|-----------|-----------|-----------|------|----|----|--------|-------|

**RQ=**Result Qualifier

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**Groundwater Remediation Program**

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# WSCF

## METHOD REFERENCES REPORT

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

|            |  |   |
|------------|--|---|
| LA-212-411 | Determination of Soil pH Measurement<br>EPA SW-846 9045C   | SOIL AND WASTE pH   |
| LA-505-412 | LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY<br>EPA-600/R-94-111 200.8  | DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS  |
| LA-508-415 | LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS<br>None   | No reference to any industry method.  |
| LA-508-471 | LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP<br>None   | No reference to any industry method.  |
| LA-508-481 | LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE<br>None  | No reference to any industry method.  |
| LA-519-412 | LA-519-412: TOTAL RESIDUE/ % SOLIDS DRIED AT 103 - 105 C<br>EPA-600/4-79-020 160.3<br>Standard Methods 2540B   | RESIDUE, TOTAL<br>Total Solids Dried at 103-105 C   |
| LA-523-427 | LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY<br>EPA SW-846 3510C<br>EPA SW-846 3545<br>EPA SW-846 3665A<br>EPA SW-846 8000B<br>EPA SW-846 8082 | SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION<br>PRESSURIZED FLUID EXTRACTION (PFE)<br>SULFURIC ACID/PERMANGANATE CLEANUP<br>DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS<br>POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY |

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at  
\\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf. This document includes on-line  
links to full-text versions of the procedures and methods, where available.

Report Date: 11-jan-2005

Report #: WSCF20042394

Report WGPPM/0

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# WSCF

## METHOD REFERENCES REPORT

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

|            |   |   |
|------------|---|---|
| LA-523-443 | LA-523-443: GAS CHROMATOGRAPH ANALYSIS OF GASOLINE RANGE TOTAL PETROLEUM HYDROCARBONS<br>WDOE TPH NWTPH-G | Volatile Petroleum Products Method for Soil and Water   |
| LA-523-455 | LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846<br>EPA SW-846 8000B<br>EPA SW-846 8260B                    | DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS<br>VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)     |
| LA-523-456 | LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C<br>EPA SW-846 8000B<br>EPA SW-846 8270C  | DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS<br>SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) |
| LA-533-410 | LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY<br>EPA-600/R-94-111 300                                  | DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY   |
| LA-695-402 | LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC<br>EPA-600/4-79-020 335.2 | Cyanide, Total  |
| NWTPH      | NWTPH-Diesel and/or Gasoline<br>WDOE NWTPH-Dx/Gx  | Total Petroleum Hydrocarbons - Diesel/Gasoline  |

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at  
\\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf. This document includes on-line  
links to full-text versions of the procedures and methods, where available.

Report Date: 11-jan-2005

Report #: WSCF20042394

Report WGPPM/0

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W13q Worklist/Batch/QC Report for Group# WSCF20042394

| WL#   | S# | Batch | QC#   | Tray      | Type | Sample#    | Test                           |
|-------|----|-------|-------|-----------|------|------------|--------------------------------|
|       |    |       |       | SAMPLE    |      | W040002595 | Percent Solids                 |
|       |    |       |       | SAMPLE    |      | W040002595 | pH Soil and Waste Measurement  |
|       |    |       | 28092 | BLANK     |      |            | Cyanide by Midi/Spectrophotom  |
|       |    |       | 28092 | BLNK-PREP |      |            | Cyanide by Midi/Spectrophotom  |
|       |    |       | 28092 | LCS       |      |            | Cyanide by Midi/Spectrophotom  |
|       |    |       | 28092 | MS        |      | W040002581 | Cyanide by Midi/Spectrophotom  |
|       |    |       | 28092 | MSD       |      | W040002581 | Cyanide by Midi/Spectrophotom  |
|       |    |       | 28092 | SPK-RPD   |      | W040002581 | Cyanide by Midi/Spectrophotom  |
|       |    |       | 28092 | SAMPLE    |      | W040002595 | Cyanide by Midi/Spectrophotom  |
| 24375 | 1  | 24734 | 28110 | BLANK     |      |            | Gamma Energy Analysis-grd H2O  |
| 24375 | 2  | 24734 | 28110 | LCS       |      |            | Gamma Energy Analysis-grd H2O  |
| 24375 | 3  | 24734 | 28110 | DUP       |      | W040002593 | Gamma Energy Analysis-grd H2O  |
| 24375 | 5  | 24734 | 28110 | SAMPLE    |      | W040002595 | Gamma Energy Analysis-grd H2O  |
| 24521 | 1  | 24879 | 28166 | BLANK     |      |            | ICP-2008 MS All possible metal |
| 24521 | 2  | 24879 | 28166 | LCS       |      |            | ICP-2008 MS All possible metal |
| 24521 | 20 | 24879 | 28166 | SAMPLE    |      | W040002595 | ICP-2008 MS All possible metal |
| 24521 | 17 | 24879 | 28166 | MS        |      | W040002599 | ICP-2008 MS All possible metal |
| 24521 | 18 | 24879 | 28166 | MSD       |      | W040002599 | ICP-2008 MS All possible metal |
| 24521 | 4  | 24879 | 28166 | MS        |      | W040002619 | ICP-2008 MS All possible metal |
| 24521 | 5  | 24879 | 28166 | MSD       |      | W040002619 | ICP-2008 MS All possible metal |
| 24521 | 12 | 24879 | 28166 | MS        |      | W040002681 | ICP-2008 MS All possible metal |
| 24521 | 13 | 24879 | 28166 | MSD       |      | W040002681 | ICP-2008 MS All possible metal |
| 24521 | 0  | 24879 | 28166 | SPK-RPD   |      | W040002681 | ICP-2008 MS All possible metal |
|       |    |       | 28176 | BLANK     |      |            | WTPH-D TPH Diesel Range (Wa)   |
|       |    |       | 28176 | LCS       |      |            | WTPH-D TPH Diesel Range (Wa)   |
|       |    |       | 28176 | MS        |      | W040002582 | WTPH-D TPH Diesel Range (Wa)   |
|       |    |       | 28176 | MSD       |      | W040002582 | WTPH-D TPH Diesel Range (Wa)   |
|       |    |       | 28176 | SPK-RPD   |      | W040002582 | WTPH-D TPH Diesel Range (Wa)   |
|       |    |       | 28176 | SAMPLE    |      | W040002595 | WTPH-D TPH Diesel Range (Wa)   |
|       |    |       | 28176 | SURR      |      | W040002595 | WTPH-D TPH Diesel Range (Wa)   |
|       |    |       | 28210 | BLANK     |      |            | PCBs complete list             |
|       |    |       | 28210 | LCS       |      |            | PCBs complete list             |
|       |    |       | 28210 | MS        |      | W040002532 | PCBs complete list             |
|       |    |       | 28210 | MSD       |      | W040002532 | PCBs complete list             |
|       |    |       | 28210 | SPK-RPD   |      | W040002532 | PCBs complete list             |
|       |    |       | 28210 | SAMPLE    |      | W040002595 | PCBs complete list             |
|       |    |       | 28210 | SURR      |      | W040002595 | PCBs complete list             |
|       |    |       | 28222 | BLANK     |      |            | SW-846 8270B Semi-Vols         |
|       |    |       | 28222 | LCS       |      |            | SW-846 8270B Semi-Vols         |
|       |    |       | 28222 | MS        |      | W040002582 | SW-846 8270B Semi-Vols         |
|       |    |       | 28222 | MSD       |      | W040002582 | SW-846 8270B Semi-Vols         |
|       |    |       | 28222 | SPK-RPD   |      | W040002582 | SW-846 8270B Semi-Vols         |
|       |    |       | 28222 | SAMPLE    |      | W040002595 | SW-846 8270B Semi-Vols         |
|       |    |       | 28222 | SURR      |      | W040002595 | SW-846 8270B Semi-Vols         |
| 24493 | 1  | 24851 | 28230 | BLANK     |      |            | Strontium 89/90                |
| 24493 | 2  | 24851 | 28230 | LCS       |      |            | Strontium 89/90                |
| 24493 | 3  | 24851 | 28230 | DUP       |      | W040002592 | Strontium 89/90                |

|       |    |       |         |            |            |                              |
|-------|----|-------|---------|------------|------------|------------------------------|
| 24493 | 6  | 24851 | 28230   | SAMPLE     | W040002595 | Strontium 89/90              |
| 24624 | 2  | 24980 | 28311   | BLANK      |            | Anions by Ion Chromatography |
| 24624 | 13 | 24980 | 28311   | BLANK      |            | Anions by Ion Chromatography |
| 24624 | 17 | 24980 | 28311   | BLANK      |            | Anions by Ion Chromatography |
| 24624 | 3  | 24980 | 28311   | LCS        |            | Anions by Ion Chromatography |
| 24624 | 12 | 24980 | 28311   | LCS        |            | Anions by Ion Chromatography |
| 24624 | 11 | 24980 | 28311   | SAMPLE     | W040002595 | Anions by Ion Chromatography |
| 24624 | 5  | 24980 | 28311   | DUP        | W040002744 | Anions by Ion Chromatography |
| 24624 | 6  | 24980 | 28311   | MS         | W040002744 | Anions by Ion Chromatography |
| 24624 | 7  | 24980 | 28311   | MSD        | W040002744 | Anions by Ion Chromatography |
| 24630 | 1  | 24986 | 28315   | BLANK      |            | NWTPH-GX TPH Gasoline Range  |
| 24630 | 2  | 24986 | 28315   | LCS        |            | NWTPH-GX TPH Gasoline Range  |
| 24630 | 5  | 24986 | 28315   | MS         | W040002532 | NWTPH-GX TPH Gasoline Range  |
| 24630 | 6  | 24986 | 28315   | MSD        | W040002532 | NWTPH-GX TPH Gasoline Range  |
| 24630 | 6  | 24986 | 28315   | SPK-RPD    | W040002532 | NWTPH-GX TPH Gasoline Range  |
| 24630 | 4  | 24986 | 28315   | DUP        | W040002592 | NWTPH-GX TPH Gasoline Range  |
| 24630 | 11 | 24986 | 28315   | SAMPLE     | W040002595 | NWTPH-GX TPH Gasoline Range  |
| 24637 | 1  | 24995 | 28347   | BLANK      |            | Uranium Isotopics by AEA     |
| 24637 | 2  | 24995 | 28347   | LCS        |            | Uranium Isotopics by AEA     |
| 24637 | 3  | 24995 | 28347   | DUP        | W040002592 | Uranium Isotopics by AEA     |
| 24637 | 6  | 24995 | 28347   | SAMPLE     | W040002595 | Uranium Isotopics by AEA     |
| 24638 | 1  | 24994 | 28355   | BLANK      |            | Americium by AEA             |
| 24638 | 2  | 24994 | 28355   | LCS        |            | Americium by AEA             |
| 24638 | 3  | 24994 | 28355   | DUP        | W040002592 | Americium by AEA             |
| 24638 | 6  | 24994 | 28355   | SAMPLE     | W040002595 | Americium by AEA             |
| 24639 | 1  | 24993 | 28356   | BLANK      |            | Plutonium Isotopics by AEA   |
| 24639 | 2  | 24993 | 28356   | LCS        |            | Plutonium Isotopics by AEA   |
| 24639 | 3  | 24993 | 28356   | DUP        | W040002592 | Plutonium Isotopics by AEA   |
| 24639 | 6  | 24993 | 28356   | SAMPLE     | W040002595 | Plutonium Isotopics by AEA   |
|       |    | 28376 | BLANK   |            |            | VOA Ground Water Protection  |
|       |    | 28376 | LCS     |            |            | VOA Ground Water Protection  |
|       |    | 28376 | MS      | W040002585 |            | VOA Ground Water Protection  |
|       |    | 28376 | MSD     | W040002585 |            | VOA Ground Water Protection  |
|       |    | 28376 | SPK-RPD | W040002585 |            | VOA Ground Water Protection  |
|       |    | 28376 | SAMPLE  | W040002595 |            | VOA Ground Water Protection  |
|       |    | 28376 | SURR    | W040002595 |            | VOA Ground Water Protection  |

**M8141-SLF-05-029**

**ATTACHMENT 3**

**SAMPLE RECEIPT INFORMATION**

Consisting of 3 pages  
Including cover page

*File*

**Waste Sampling and Characterization Facility**  
 P.O. BOX 1970 S3-30, Richland, WA 99352  
 PHONE: (509) 373-7004/FAX: (509) 373-7134

**ACKNOWLEDGMENT OF SAMPLES RECEIVED**

*1/12/05*

**Groundwater Remediation Program**

Richland, WA 99354  
 Attn: Steve Trent

Customer Code: GPP  
 PO#: 119144/ES10  
 Group#: 20042394  
 Project#: F04-015  
 Proj Mgr: Steve Trent A0-21  
 Phone: 373-5869

The following samples were received from you on 12/13/04. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

| Sample#    | Sample Id | Matrix  | Sample Date |
|------------|-----------|---|-------------|
|            |           | Tests Scheduled   |             |
| W040002595 | B19941    | GRP            TRENT Solid, or handle as if solid<br>@2008        @AEA-30    @AEA-31    @AEA-32    @GEA-GPP<br>@IC-30        @PCBGPP    @SR89_90    @SVOCGPP    @TPHD-WA    @TPHG<br>@VOA-GPP      CN-02      PERSOLID    PH-30 | 12/13/04    |

**Test Acronym Description**

| Test Acronym | Description                    |
|--------------|--------------------------------|
| @2008        | ICP-2008 MS All possible metal |
| @AEA-30      | Plutonium Isotopics by AEA     |
| @AEA-31      | Americium by AEA               |
| @AEA-32      | Uranium Isotopics by AEA       |
| @GEA-GPP     | Gamma Energy Analysis-grd H2O  |
| @IC-30       | Anions by Ion Chromatography   |
| @PCBGPP      | PCBs complete list             |
| @SR89_90     | Strontium 89/90                |
| @SVOCGPP     | SW-846 8270B Semi-Vols         |
| @TPHD-WA     | WTPH-D TPH Diesel Range (Wa)   |
| @TPHG-WA     | NWTPH-GX TPH Gasoline Range    |
| @VOA-GPP     | VOA Ground Water Protection    |
| CN-02        | Cyanide by Midi/Spectrophotom  |
| PERSOLID     | Percent Solids                 |
| PH-30        | pH Soil and Waste Measurement  |

| FLUOR Hanford Inc.   |   | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST                                      |  |   |  |  |  | F04-015-046                                | PAGE 1 OF 1 |  |
|--|---|---|--|---|--|--|--|--|-------------|--|
| COLLECTOR<br>Pope/Pfister/Tyra/Wiberg  |   | COMPANY CONTACT<br>CS Gearlock<br>372-9638                                    |  |   | PROJECT COORDINATOR<br>TRENT, SJ           |  | PRICE CODE 8N                              | DATA TURNAROUND                            |             |  |
| SAMPLING LOCATION<br>216-U-3; 22.SFT-25FT  |   | PROJECT DESIGNATION<br>200-MW-1 Characterization Sampling and Analysis - Soil |  |   | SAF NO.<br>F04-015                         |  | AIR QUALITY                                | 45 Days /<br>45 Days                       |             |  |
| ICE CHEST NO.  |   | FIELD LOGBOOK NO.<br>HNF-N-386 1  |  | COA<br>119144ES10   | METHOD OF SHIPMENT<br>Government Vehicle   |  |  |  |             |  |
| SHIPPED TO<br>Waste Sampling & Characterization  |   | OFFSITE PROPERTY NO.<br>N/A   |  |   | BILL OF LADING/AIR BILL NO.<br>N/A         |  |  |  |             |  |
| MATRIX*<br>A=Air<br>DL=Drum<br>Liquids<br>DS=Drum<br>Solids<br>L=Liquid<br>O=Oil<br>S=Soil<br>SE=Sediment<br>T=Tissue<br>V=Vegetation<br>W=Water<br>WI=Wipe<br>X=Other | POSSIBLE SAMPLE HAZARDS/ REMARKS<br>N/A | PRESERVATION  | Cool 4C                                    | Cool 4C   | Cool 4C                                    | Cool 4C                                    | Cool 4C                                    | None                                       |             |  |
|  |   | TYPE OF CONTAINER   | aG   | aG  | aG   | aGs*                                       | aG   | Square Bottle - Poly                       |             |  |
|  |   | NO. OF CONTAINER(S)   | 1  | 1   | 1  | 3  | 1  | 1  |             |  |
|  |   | VOLUME  | 250mL                                      | 120mL   | 250mL                                      | 40mL                                       | 120mL                                      | 500mL                                      |             |  |
| SPECIAL HANDLING AND/OR STORAGE<br>Radioactive Tie To: B19952<br><i>Z0042394</i>   |   | SAMPLE ANALYSIS   | SEE ITEM (1) IN<br>SPECIAL<br>INSTRUCTIONS | PCBs - 8082;  | SEE ITEM (2) IN<br>SPECIAL<br>INSTRUCTIONS | SEE ITEM (3) IN<br>SPECIAL<br>INSTRUCTIONS | SEE ITEM (4) IN<br>SPECIAL<br>INSTRUCTIONS | SEE ITEM (5) IN<br>SPECIAL<br>INSTRUCTIONS | <i>GIA</i>  |  |
| SAMPLE NO.   | MATRIX*                                 | SAMPLE DATE   | SAMPLE TIME                                |   |  |  |  |  |             |  |
| B19941<br><i>Z0042394</i>  | SOIL W6400 Z-595                        | 12-13-04  | 0750                                       | X   | X  | X  | X  | X  |             |  |
| CHAIN OF POSSESSION  |   | SIGN/ PRINT NAMES   |  |   | SPECIAL INSTRUCTIONS                       |  |  |  |             |  |
| RELINQUISHED BY/REMOVED FROM<br><i>J. S. POPE</i>  | DATE/TIME<br>12-13-04 1330              | RECEIVED BY/STORED IN<br><i>R. B. B.</i>                                      | DATE/TIME<br>12/13/04 1330                 | ** The laboratory is to report both kerosene and diesel range compounds from the WTPH-D analysis.   |  |  |  |  |             |  |
| RELINQUISHED BY/REMOVED FROM   | DATE/TIME                               | RECEIVED BY/STORED IN   | DATE/TIME                                  | (1)IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate} Total Cyanide - 9010; pH (Soil) - 9045;   |  |  |  |  |             |  |
| RELINQUISHED BY/REMOVED FROM   | DATE/TIME                               | RECEIVED BY/STORED IN   | DATE/TIME                                  | (2)ICP/MS - 200.8 (TAL) {Cadmium, Chromium, Copper, Silver} ICP/MS - 200.8 (Add-On) {Lead, Uranium} 200.8_HG - ICPMS (Mercury)  |  |  |  |  |             |  |
| RELINQUISHED BY/REMOVED FROM   | DATE/TIME                               | RECEIVED BY/STORED IN   | DATE/TIME                                  | (3)VOA - 8260A (TCL); VOA - 8260A (Add-On) {1-Butanol, cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene}  |  |  |  |  |             |  |
| RELINQUISHED BY/REMOVED FROM   | DATE/TIME                               | RECEIVED BY/STORED IN   | DATE/TIME                                  | (4)Semi-VOA - 8270A (Add-On) {Tributyl phosphate} TPH-Gasoline Range - WTPH-G; TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}               |  |  |  |  |             |  |
| RELINQUISHED BY/REMOVED FROM   | DATE/TIME                               | RECEIVED BY/STORED IN   | DATE/TIME                                  | (5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Isotopic Plutonium; Isotopic Uranium; Americium-241; Strontium-89,90 -- Total Sr; <i>GIA</i> - Expedite 24 hour turn-around |  |  |  |  |             |  |
| RELINQUISHED BY/REMOVED FROM   | DATE/TIME                               | RECEIVED BY/STORED IN   | DATE/TIME                                  |   |  |  |  |  |             |  |
| LABORATORY SECTION   | RECEIVED BY                             |   |  |   | TITLE                                      | DATE/TIME                                  |  |  |             |  |
| FINAL SAMPLE DISPOSITION   | DISPOSAL METHOD                         |   |  |   | DISPOSED BY                                | DATE/TIME                                  |  |  |             |  |